Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly. Price 1s.

Medical Lib

THE

MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—9TH YEAR. SYDNEY: SATURDAY, SEPTEMBER 23, 1922. No. 13.

Surgical Instruments

We are pleased to announce that good general stocks of our Surgical Instruments have arrived and that regular supplies are now coming forward. Members of the Profession are cordially invited to visit our Show Rooms.

Allen & Hanburys (Australasia) Ltd.

Instrument Makers to H.M. Army and H.M. Navy

AUSTRALASIAN BRANCH:

B.M.A. BUILDING : Elizabeth Street, Sydney

SIMPLICITY and REPOSE

DOUBLE BEDSTEAD to match **£10 15s.**

The "IRWIN" Suite is another of our beautiful Bedroom Suites made in fumed Maple and finished with our usual regard for detail.

4 ft. WARDROBE
(half hanging, half shelves).
3 ft. 6 in. TOILET TABLE
2 ft. 6 in. WASHSTAND

The "IRWIN" Suite £42 10s.

Beard Watson & Co. Ltd.
GEORGE STREET, SYDNEY.

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—9TH YEAR. SYDNEY: SATURDAY, SEPTEMBER 23, 1922. No. 13.

Table of Contents

	PAGE.
ORIGINAL ARTICLES—	
"Quinidine Sulphate in Auricular Fibrillation," by M. D. SILBERBERG, M.D.	345
"Twelve Months' Experience with the Potter-Bucky Diaphragm," by VAL. MCDOWALL, M.B., CH.M.	350
"Delayed Testis," by ALAN B. MCCUTCHEON, M.B., B.S.	353
REPORTS OF CASES—	
"Pemphigus of the Conjunctiva," by G. H. HOGG, M.D., C.M.	356
REVIEWS—	
Dosage Tables for Deep Therapy	358
The Examination of Patients Suffering from Surgical Affections	358
Diseases of Women	358
LEADING ARTICLES—	
The Incorporation of Branches	359
THE WEEK—	
Epidemic Influenza	360
ABSTRACTS FROM CURRENT MEDICAL LITERATURE—	
Medicine	362
Neurology	363
BRITISH MEDICAL ASSOCIATION NEWS—	
Scientific	364
Medico-Political: Amended Articles and By-Laws	364
Salaries of Medical Officers of Health in Victoria	367
Notices	367
MEDICAL SOCIETIES—	
Melbourne Pædiatric Society	367
SPECIAL CORRESPONDENCE—	
London Letter	368
CORRESPONDENCE—	
A Warning	369
Diathermy and Radio-Therapy	369
POST-GRADUATE WORK—	
November Course in Melbourne	370
UNIVERSITY INTELLIGENCE—	
The University of Sydney	370
OBITUARY—	
Alexander Lewers	370
Cyril Lowther Clarke	370
PUBLIC HEALTH—	
State Children in South Australia	370
The Plague Outbreak	371
The Health of Australia	371
PROCEEDINGS OF THE AUSTRALIAN MEDICAL BOARDS—	
New South Wales	372
BOOKS RECEIVED	372
MEDICAL APPOINTMENTS	372
MEDICAL APPOINTMENTS VACANT, ETC.	372
MEDICAL APPOINTMENTS: IMPORTANT NOTICE	372
DIARY FOR THE MONTH	372
EDITORIAL NOTICES	372

QUINIDINE SULPHATE IN AURICULAR FIBRILLATION.

BY M. D. SILBERBERG, M.D. (MELBOURNE),

Honorary Physician to the Alfred Hospital and to the Children's Hospital; Physician to the Repatriation Hospital, Caulfield; Consultant Physician to the Women's Hospital, Melbourne.

THE use of quinidine sulphate in the cardiac irregularity known as auricular fibrillation has been prominent in medical journals of late. It was used on the continent in 1919, but it is only recently that its therapeutic action has been satisfactorily explained by the work of Lewis and his co-workers. Before this is dealt with, it is necessary to understand the mechanism of fibrillation of the auricle and here again we are indebted to the same investigators for the modern idea of circus movement as the basis of this common heart disorder. By means of the electro-cardiograph it is possible to time very accurately the appearance of an excitation wave at any point of muscle investigated. The excitation and electric change accompanying it, precedes contraction by a brief, measurable interval of 0.001 second. By leading off from various points the appearance of the excitation wave is signalled by the electric change and can be recorded photographically. In this manner it was demonstrated that in rings of muscle, *e.g.*, of the medusa umbrella, there could be produced a continuous circulating wave. The same thing occurs in the heart round natural orifices, such as the superior or inferior *vena cava* or the mitral orifice.

We have in fibrillation a central circulating mother wave. The oncoming crest of the excitation wave is always following the wake of a refractory portion whose refractoriness lifts ahead of it, *i.e.*, becomes responsive. The wave can advance and is able to circulate indefinitely, following sinuously the track laid down. If we could prolong the gap, the advancing wave would reach a refractory portion and could not pass and would thus automatically be brought to a close and normal rhythm would again set in, originating at the sino-auricular node or "pacemaker," where normal rhythm is originated. This is where quinidine sulphate comes in. It does affect the refractory period and in some 60% of cases of auricular fibrillation the heart can be restored to normal rhythm by its action. Truly a remarkable result and a triumph of therapeutics! It is not fool-proof, however, nor should all cases be treated indiscriminately, nor is the action necessarily permanent.

This is readily understood when we remember that the underlying degeneration in the myocardium is still present and therefore readily reverts to the arrhythmia again. However, some hearts have remained normal for many months and it can easily

be re-administered or its action kept up. The writer has treated a series of eight patients. An apology is made for the smallness of the number. But six out of the seven became normal, which is some justification for this article.

The dosage used was 0.4 gramme (six and a half grains) of the powder given every four hours. The average dosage in successful cases was from five to eight grammes, sufficient to restore normal rhythm. If this is not brought about in some three or four days, it is of little use persisting. It may be we will find other combinations succeed in these refractory cases or it may be advisable to use it intravenously. Much work needs to be done to settle these points.

In this series five of the patients were males and three females. Their average age was fifty-two years. In all the auricular fibrillation had been present for many months or years. In several of them electro-cardiographic or polygraphic records or both were taken before and after administration. The change of the rhythm is very striking and can readily be detected by the usual clinical methods of pulse-taking and heart auscultation.

Five were of the degenerative type, including one thyreo-toxic affection and three post-rheumatic mitral cases. One only failed to respond to quinidine in 0.4 and 0.6 gramme doses alone or combined with digitalis. In this case the patient's general condition improved with rest and digitalis therapy. In all the action of the drug was to slow the auricle. (For details of this see papers by Drury and Iliescu.) As the auricle rate slows the ventricle rate rises, as apparently more auricular stimuli are able to traverse the conduction tissues. Then the ventricle rate falls till normal rhythm sets in.

There was in all the seven successful cases considerable subjective improvement, which has been maintained.

The two chief risks of the administration will be understood by considering the condition of the auricle. In auricular fibrillation the auricle is dilated and not contracting; consequently, thrombi form in the auricular trabeculæ. When the auricle resumes its function of contraction, it is possible for such thrombi to be detached and to pass into the circulation, causing embolic phenomena. The frequency of this risk is probably not great, but it has to be determined over a large series of cases, followed up for some time. It is probably the explanation of the cerebral seizure that occurred in Case I., fortunately without untoward result.

The other possibility is that auricular fibrillation may be converted into auricular flutter. Here we have auricular tachycardia of something in the region of three hundred beats per minute. Usually the junctional tissues fail to conduct so many stimuli reaching the *A.V.* node at this rate, consequently the ventricle responds to some ratio, frequently 2:1 and the ventricle rhythm is then regular, or it may be of varying ratios, *e.g.*, 2:1, 3:1, 4:1, etc.. The ventricle rhythm is then apparently irregular till carefully analysed. Auricular flutter is thus auricular tachycardia, usually *plus* a grade or grades of heart block.

Now it may happen that the junctional tissues will conduct all the auricle stimuli and the ventricle will then beat at the same rate as the auricle, *e.g.*, three hundred per minute. At such a high speed of contraction the ventricle output is very small, blood pressure falls to a dangerously low point, cerebral anæmia occurs and unconsciousness may result. In Case I. auricular flutter did occur [see Figure I. (E) and Figure II. (B)], as shown by the electro-cardiogram; the ventricle

CASE I.—P.W..

Time marker 0.2 second in all polygraph tracings. a = auricle wave. c = time of carotid wave and ventricular systole. v = time of opening of tricuspid valves. f = fibrillary waves.

FIGURE I. (A).
Irregular Pulse of Fibrillation, six months before treatment.

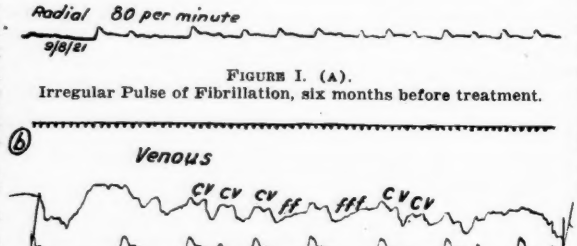


FIGURE I. (B).
Typical Fibrillation, radial and venous curves. No digitalis for a week.

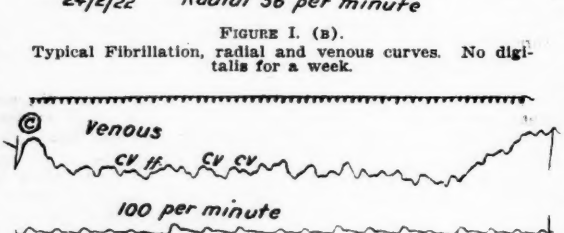


FIGURE I. (C).
Still Fibrillating; shows the increase of the pulse in the first stage of quinidine treatment.

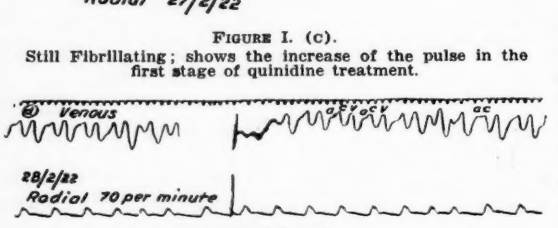


FIGURE I. (D).
Normal Rhythm after 5.2 Grammes of Quinidine Sulphate.

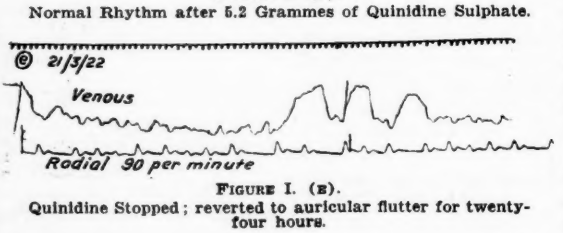


FIGURE I. (E).
Quinidine Stopped; reverted to auricular flutter for twenty-four hours.

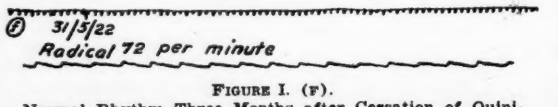


FIGURE I. (F).
Normal Rhythm Three Months after Cessation of Quinidine Treatment. Patient feeling much improved.

did not respond to all the auricle stimuli, but was merely rapid and responding to every third stimulus as a rule. It is well to point out these risks, so that the patient will be under proper observation and at rest in bed. It is also advisable to test the patient's idiosyncrasy to quinine by using a small dose of a quinine salt initially.

Clinical Notes.

The following are the case history notes:

CASE I.—P.W., male, *ætatis* forty-six, attended the author's clinic at the Alfred Hospital as an out-patient from July 19, 1921. He complained of pains over the heart and down the inner side of the left arm and up into the neck. He had had about twenty attacks in six weeks. The pain was severe and he had to stop still and grasp something for support. He also suffered from continuous shortness of breath. He had been an in-patient six years previously. At one time he had taken alcohol in excess.

Condition on Admission.

The apex beat of his heart was in the sixth space in the mid-clavicular line. The sounds were clear. Its rhythm was irregular, one hundred and twenty per minute. Præcordial tenderness was present. The liver reached to twenty centimetres below the costal margin.

The Wassermann test did not yield a reaction. A polygraphic tracing taken on August 9, 1921, showed auricular fibrillation [see Figure I. (A)].

The patient was admitted to hospital on December 4, 1921, under Dr. J. F. Mackeddie, with the diagnosis of auricular fibrillation. Examination showed completely irregular pulse and numerous rhonchi through both lungs. The urine was free from albumin and sugar. The bronchitis recurred from time to time. The patient was confined to bed and made very little improvement, though the pulse slowed with digitalis.

On February 25, 1922, quinidine sulphate was given by the mouth in 0.4 gramme doses. After thirteen doses (5.2 grammes) the pulse became quite regular. He improved and was discharged to the out-patient department on March 13, 1922.

Polygraph tracings were taken before treatment on February 24 and again on February 27. Figure I. (B) and Figure I. (C) both show characteristic fibrillation curves.

On February 28 another tracing showed regular rhythm after 5.2 grammes of quinidine [see Figure I. (D)].

He was taken to my rooms on March 6, 1922, and electrocardiograph records were taken [see Figure II. (A)]. This shows normal rhythm, with an occasional left ventricular extra-systole. Another record of March 22, 1922, showed auricular flutter with an occasional left ventricular extra-systole [see Figure II. (B)].

He was re-admitted to hospital on March 23, 1922. After four doses of quinidine normal rhythm again returned. On March 30, when the heart rhythm had been normal for seven days, he had a sudden attack of unconsciousness. The pupils were widely dilated, breathing was stertorous and the left side of his face paresed; the pulse was regular and of good volume. In about ten minutes consciousness returned. He could move his limbs, but his speech was unintelligible. The pulse showed some extra-systoles. He recovered in two hours and no signs remained.

He was discharged on April 10, 1922, feeling very well; his pulse was regular. He was seen again in July, when he was feeling and looking much improved; his pulse was regular, except for occasional extra-systoles. He intends to resume work [see Figure I. (F)].

CASE I.—P.W..

Electro-cardiograms. Lead II.. Time marker 0.04 second. 10 millimetre = 1 millivolt. P = auricle. R T = ventricle. For polygraph curves see Figure I. (A) to Figure I. (F).

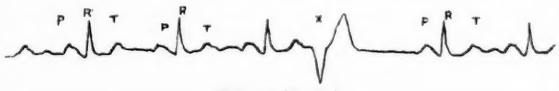


FIGURE II. (A).

Normal Rhythm after Quinidine Treatment; interrupted by a left ventricular extra-systole at x.

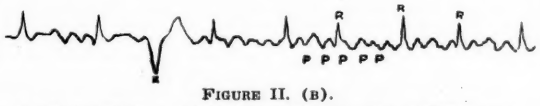


FIGURE II. (B).

Auricular Flutter. Note the rapid succession of "P" waves. A left ventricular extra-systole appears at x.

Comment.

This was a case of auricular fibrillation of long standing with *angina pectoris* and recurrent bronchitis, the result of myocardial degeneration. The heart recovered its normal rhythm with quinidine sulphate. The patient was greatly benefited. He had a cerebral seizure (? small embolus) when the rhythm had been regular for eight days, but he made a good recovery.

CASE II.—G.McG., union secretary, *ætatis* forty-seven years, was referred to me by Dr. R. Wallace on March 29, 1922. He had not felt well since September, 1921. He complained of fullness about the upper part of his chest and throat, shortness of breath for two months and loss of weight. There had been no swelling of his feet.

Previous History.

He had had rheumatic fever at the age of sixteen years, with kidney trouble. He had had a second rheumatic attack at forty-three.

Condition When First Seen.

The patient was thin. His pulse was rapid and irregular, one hundred and twenty per minute. The apex beat of the heart was in the fifth space, 12.5 centimetres from the mid-line. The sounds were confused, but systolic and diastolic bruits could be made out. Electro-cardiographic and polygraphic tracings taken on March 29, 1922, both show auricular fibrillation [see Figure III. (A) and Figure III. (B)].

CASE II..

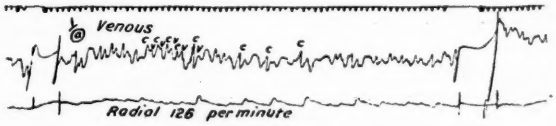


FIGURE III. (A).

Polygraph Curves Showing Auricular Fibrillation Before Treatment by Quinidine. Note the rapid, irregular pulse and the ventricular form of venous curve.

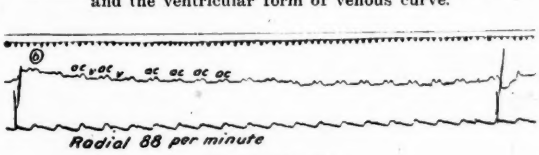


FIGURE III. (B).

After Treatment Regular Rhythm is Regained. Note the regular pulse and the normal form of venous curves.

The patient was admitted to hospital on March 30, 1922. His pulse on admission was completely irregular, one hundred and twenty per minute. His urine contained albumin. He was put directly on quinidine sulphate (0.4 gramme) every four hours.

Table I. (see next page) gives the time of administration and counts of the apex beats and pulse rate, the difference being called pulse deficit.

The pulse became perfectly regular after 4.4 grammes. The large pulse deficient as the rate rose should be noted. With return of normal rhythm it was much easier to analyse the bruits; a presystolic, a systolic and a diastolic bruit were detected in the mitral area. The patient was discharged on April 10, 1922.

The patient was seen again on July 5, 1922. His pulse was still regular and his condition was very much im-

TABLE I..

Date.	Time.	Apex Beats.	Pulse Rate.	Pulse Deficit.
March 31, 1922	4 p.m.	118	110	8
	8 p.m.	126	84	42
	12 mid.	130	94	36
April 1, 1922	4 a.m.	142	102	42
	10 a.m.	—	—	—
	2 p.m.	110	77	33
	6 p.m.	105	76	29
	10 p.m.	97	82	17
April 2, 1922	2 a.m.	130	82	48
	6 a.m.	138	82	56
	10 a.m.	90	88	2

proved. He was doing a full day's work which included much walking.

An electro-cardiogram was taken before treatment on March 29, 1922, as well as a polygraphic tracing. Both show the characteristic, rapid, irregular rhythm of auricular fibrillation [see Figure II. (A) and Figure II. (B)].

Figure III. (B) shows the normal rhythm after treatment. The curves taken in July show normal rhythm persisting.

Comment.

This was a case of rheumatic mitral disease and auricular fibrillation. The heart's action was rapidly restored to normal rhythm with much subjective improvement.

CASE III.—Mrs. L.C., *ætatis* sixty-eight years, was first seen as an out-patient on April 4, 1922. She complained of dyspnœa on exertion for about fifteen years. She had had palpitation, præcordial pain and cough for a week.

Previous History.

Fifteen years ago she had been in hospital for her "heart" and also six years ago. She had not had rheumatic fever. She had had eleven children; four were living, one had died of rheumatic fever, three had died of diphtheria and one was still-born. She had also had one miscarriage.

Condition on Admission.

The patient was a stout, dyspnœic woman. The right border of the cardiac dulness was 2.5 centimetres and the apex beat 12.5 centimetres from the mid-line. The rhythm was irregular, one hundred and twenty-seven per minute. There was hyperalgesia over the præcordium. Crepitations were heard at the bases of the lungs. She was admitted to hospital for quinidine treatment on April 6, 1922. The following table is a record of apex and pulse rates, with time of administration:

TABLE II..

Date.	Time.	Apex Beat.	Pulse Rate.
April 6, 1922	6 p.m.	121	112
	10 p.m.	124	116
April 7, 1922	2 a.m.	140	132
	6 a.m.	128	112
	11 a.m.	134	120
	3 p.m.	126	116
	7 p.m.	123	120
	11 p.m.	120	112
April 8, 1922	4 a.m.	132	128
	8 a.m.	120	96
	12 noon	96	88
	4 p.m.	94	82
	8 p.m.	96	88
	12 mid.	100	88
April 9, 1922	4 a.m.	96	84
	8 a.m.	84	84
	12 noon	83	83

The rhythm was regular and a mitral systolic bruit was present. Seventeen doses, equal to 6.8 grammes, of quinidine sulphate sufficed to render the rhythm regular. The patient was discharged to the Out-Patient Department on April 20, 1922.

The auricular fibrillation recurred, but she refused to return to hospital.

Comment.

This was a case of auricular fibrillation associated with cardio-sclerosis. The rhythm became regular with quinidine sulphate, but relapsed. Further treatment was refused.

CASE IV.—A.A., *ætatis* seventy years, was admitted under the care of Dr. A. V. M. Anderson on April 10, 1922. He had complained of shortness of breath for a month; his legs had been swollen about the same time. His cough had been troublesome; he had slept badly. He had had pleurisy and pneumonia twenty years ago and again three years ago. He had an eye removed five years ago for some unknown cause.

Condition on Admission.

The apex beat of the heart was fifteen centimetres from the mid-line; the right border of the cervical dulness was 2.5 centimetres from the mid-line. A systolic murmur was heard at the apex. The pulse was completely irregular. There was slight ascites. His legs were œdematous. The patient was given quinidine sulphate. The pulse soon became regular. The actual amount taken was not recorded. He was discharged much improved.

Comment.

This was a case of auricular fibrillation due to cardio-sclerosis which responded well to quinidine sulphate; normal rhythm was regained.

CASE V.—J.H., *ætatis* sixty-seven years, an ex-plasterer, was admitted to hospital on April 11, 1922. On May 17, 1922, he was transferred from Dr. Walter Summons's out-patient clinic. He complained of cough and shortness of breath for two months. There had been pain over the lower part of the sternum intermittently for one month. A tight sensation in the chest made breathing difficult. There was no swelling of the feet.

Previous History.

He had had no illnesses. He had been a non-smoker for ten years. He admitted excess of alcohol years ago. He denied having had venereal disease and his serum did not react to the Wassermann test.

Condition on Admission.

The pulse was completely irregular and difficult to count. The apex beat was in the mid-clavicular line in the fifth space. There was no increase of dulness to the right of the sternum. The sounds were clear; there was gross irregularity. A few moist sounds were heard at the bases of the lungs. An electro-cardiogram taken before quinidine sulphate was administered showed auricular fibrillation [see Figure IV. (A)].

Before treatment the apex beat count was 158, the pulse rate 142. Treatment was commenced on April 12, 1922.

TABLE III..

Date.	Time.	Apex Beats.	Pulse Rate.	Pulse Deficit.
April 12, 1922	6 p.m.	144	116	28
	10 p.m.	148	138	10
April 13, 1922	2 p.m.	138	105	33
	6 p.m.	130	107	33
	10 p.m.	—	—	—
	2 p.m.	108	105	3

The pulse became regular after six doses aggregating 2.4 grammes. On April 16, 1922, the pulse was again completely irregular; the apex beat count was 148 and the pulse rate 104. The pulse became regular again after six doses (2.4 grammes). Fibrillation again occurred on April 20, 1922. The pulse rate was 148. A third course of quinidine sul-

phate was given. The pulse became regular after three days' treatment. It again became irregular on May 5, 1922. A fourth course was given and the heart again responded. The pulse became regular, ninety per minute. He was then kept on the drug, three doses daily, and the pulse has remained regular. Polygraphic tracings of the regular rhythm show *pulsus alternans* and occasional extra-systoles [see Figure V. (B)]. He has attended the Out-Patients' Department since and feels much improved. A cardiogram taken on May 19, 1922, shows normal rhythm [see Figure IV. (B)].

Comment.

This was a case of auricular fibrillation due to arterio-cardio-sclerosis, which readily responded to quinidine sulphate, but tended to relapse. It responded each time and finally regular rhythm was obtained, but the patient has *pulsus alternans* and extra-systoles ventricular in type.

CASE VI.—Mrs. M.M., *ætatis* forty-one years, was admitted under the care of Dr. A. V. M. Anderson on March 30, 1922. She complained of shortness of breath on exertion for six months.

Previous History.

She had had rheumatic fever at the age of nine years. An operation for varicose veins had been performed seventeen years ago. She had had influenza and pneumonia three years ago; she had been in bed for six weeks. The patient had had two children, both of whom had died; she had also had three miscarriages. She was the daughter of J.H. (see Case V.).

Condition on Admission.

There was some pyorrhœa and a malar flush. The apex beat was 12.5 centimetres from the mid-line, while the right border of the cardiac dulness was 1.25 centimetres from the mid-line. There was a mitral systolic bruit. The pulse was rapid and irregular. There were signs of effusion over the right lung. There was some œdema of the legs.

A pulse tracing taken on April 5, 1922, shows auricular fibrillation, one hundred and fifty per minute. The patient did not respond to quinidine sulphate in 0.4 gramme doses given every four hours nor with 0.6 grammes doses. The pulse slowed with digitalis; quinidine was again given, but with no good effect.

Comment.

This was a patient with rheumatic mitral disease and auricular fibrillation who failed to respond to quinidine.

CASE VII.—Mrs. H.F., *ætatis* thirty-seven years, was first seen at the Women's Hospital and was then transferred to the Alfred Hospital, where she was admitted on April 9, 1922. She complained of shortness of breath and weakness for seven months.

CASE V..

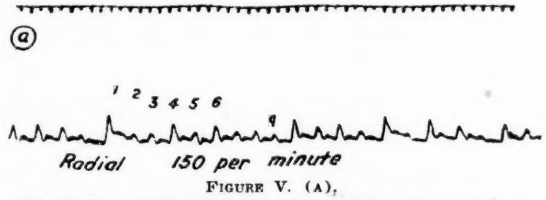


FIGURE V. (A),
Radial Tracing Showing Irregular Rhythm of Fibrillation Before Quinidine Treatment.

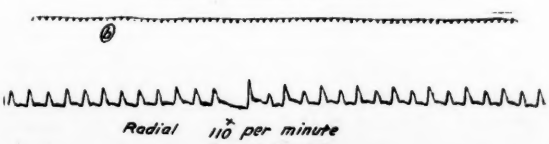


FIGURE V. (B).
After Treatment, Normal Rhythm. An extra-systole is shown at x. Note the well-marked *pulsus alternans* (alternating height of the alternate beats), more marked after the extra-systole, x.

CASE V..
P = auricle. R T = ventricle. For polygraph curves see Figure V. (A) and Figure V. (B).

FIGURE IV. (A).
Electro-cardiogram Showing Auricular Fibrillation. A right ventricular extra-systole is showing at x. Note absence of "P" waves.

FIGURE IV. (B).
Normal Rhythm After Quinidine.

Previous History.

She had had measles as a child and influenza four years ago. An operation had been performed for *myoma uteri* in September, 1921, at the Women's Hospital. She had had sore throat on several occasions.

Condition on Admission.

The patient's face was flushed. There was no œdema of the legs. The pulse was very irregular, eighty-two per minute. The apex beat was in the sixth space, ten centimetres from the mid-line. Systolic and diastolic bruits were heard at the apex. Quinidine sulphate, 0.4 gramme, was administered as follows:

TABLE IV..

Date.	Time.	Apex Beat.	Pulse Rate.
May 10, 1922	2 p.m.	96	70
	6 p.m.	110	75
	10 p.m.	100	80
May 11, 1922	2 a.m.	112	80
	6 a.m.	100	80
	10 a.m.	93	73
	11 p.m.	92	68
May 12, 1922	2 a.m.	90	72
	10 a.m.	100	72
	11 a.m.	72	72

The pulse became quite regular after nine doses (3.6 grammes). A polygraph tracing was taken on March 11, 1922, showing auricular fibrillation and again on March 12, 1922, showing normal rhythm.

Comment.

This was a case of mitral disease and auricular fibrillation which responded rapidly to quinidine sulphate.

CASE VIII.—N., *ætatis* forty years, a railway supervisor, was referred to me by Mr. H. B. Devine on December 16, 1921. He had been treated for exophthalmic goitre; hemi-thyreoidectomy had been performed four years ago with great improvement. Latterly he had lost weight and was nervy and excitable and easily tired. There was some shortness of breath on exertion, but no swelling of feet. The patient had become worse after seeing a railway accident.

The patient's previous history did not contain any incident of ætiological importance. He was of steady habits.

Condition When First Seen.

The patient was thin and tremulous. He had no exophthalmos. His pulse rate was ninety-six, irregular. The apex beat was in the fifth space, 12.5 centimetres from the mid-line. The sounds were rather rough, but there were no definite bruits. The rhythm was irregular. The thyreoid isthmus was enlarged. The urine

TABLE V.—CASES OF AURICULAR FIBRILLATION TREATED BY QUINIDINE SULPHATE.

Case.	Sex.	Age.	Type.	Dosage.	Result.
1. P.W.	Male	46	Degenerative	5.2 grammes	Normal rhythm; short attack of auricular flutter; mild cerebral seizure; much improved
2. McG.	Male	47	Rheumatic	4.4 grammes	Much improved; normal rhythm
3. L.C.	Female	68	Degenerative	——	Normal rhythm; relapsed; refused further treatment
4. A.A.	Male	60	Degenerative	——	Normal rhythm
5. J.H.	Male	67	Degenerative	Several courses	Normal rhythm, except for *pulsus alternans* and extra-systoles
6. M.M.	Female	41	Rheumatic	Large amount	Failed
7. H.F.	Female	37	Rheumatic	3.6 grammes	Normal rhythm
8. N.	Male	40	Thyrotoxic	12 grammes	Normal rhythm

contained no albumin nor sugar. An electro-cardiogram and polygraphic tracing taken on December 18, 1921, showed auricular fibrillation.

He was treated with digitalis and quinidine hydrobromide. He improved steadily and was able to resume full work. The pulse remained irregular, though its rate was reduced to seventy per minute. Quinidine sulphate in 0.4 gramme doses was given every four hours and the pulse became regular. An electro-cardiogram taken on June 6, 1922, showed normal rhythm at ninety per minute.

Comment.

This was a case of thyreo-toxic auricular fibrillation that responded well to digitalis and other therapy, but the auricular fibrillation persisted. Normal rhythm was restored by quinidine sulphate at rather a faster rate than when the patient was taking digitalis and the fibrillation was present.

The action of quinidine is not merely a single effect, but threefold. It lengthens the refractory phase as much as 50% and thus the circulating wave is brought to an end. This is the basis of its success in fibrillation. Another effect is to slow conduction in the auricle. Presumably this allows time for the refractory phase to pass off; therefore, it favours reentry of the circulating wave. These two effects are opposed to each other; this explains the success and non-success in bringing circus movement to a close. It cannot as yet be determined which effect will be produced in a given individual. The fact that the treatment is successful in 50% to 60% of a large series of patients is attributed to this double action. It should, however, be pointed out that slowing of the auricle occurs in all patients treated. A further action is on the junctional tissues. It has a paralysing effect on the vagi similar to atropine, though less powerful, by reducing vagal tone. The junctional tissues conduct better and the ventricle rate rises. On the other hand, it has a direct action on the junctional tissues, which opposes the vagal effect.

It will be seen that, though the action is varied, the essential factor for success is the prolonging of the refractory phase in the auricle. It is hoped that other drugs will be found to act in the same way and with less possibilities of undesirable action. While this investigation was being carried out, two other cases of paroxysmal fibrillation came under the writer's notice. In the first the attack lasted forty hours and ceased spontaneously just at the time when quinidine was about to be administered. In the second case the attack lasted only four hours. In both cases there have been recurrent attacks at long intervals.

Eight patients with chronic auricular fibrillation were treated with quinidine sulphate, with the result that in seven normal rhythm was restored. In one of these seven the condition relapsed and the patient refused to go back to hospital. The remaining six are much improved.

References.

The reader is referred to the following for full details:

Heart: 1921, Volume VIII., Nos. 2 and 3, Volume IX., No. 1; 1922, Volume IX., No. 3.
The British Medical Journal, October 1, 1921.

TWELVE MONTHS' EXPERIENCE WITH THE POTTER-BUCKY DIAPHRAGM.[1]

BY VAL. MCDOWALL, M.B., CH.M. (SYDNEY),
Senior Honorary Radiologist, Brisbane General Hospital

BEFORE going into details of the Potter-Bucky diaphragm, may I be allowed to digress a little and to outline briefly some of the steps by which improvement in the detail of X-ray photographs has been obtained since the first discovery of X-rays in 1895.

Although in 1913 Friedrich and Knipping had succeeded in the experimental diffraction of X-rays, no success had attended attempts at the refraction of X-rays.

In radiography, therefore, instead of focussing them in order to improve results, all that can be done is to cut out the more divergent of these rays from reaching the plate.

As the rays are generated from all parts of the bulb, the first step in this direction was to surround the bulb with material impervious to the rays, at the same time leaving an opening in this material through which the useful rays could be directed towards the part to be photographed.

The next step was the addition of a plain cylinder of some similar material interposed between the tube and the plate. There are various modifications of the cylinder still in every-day use.

About the same period, variations in the size of the upper end of the cylinder were obtained by the interposition of stops with different sized openings. A refinement of this device is now seen in the iris diaphragm or in the adjustable rectangular diaphragm, which diminishes or increases the size of the opening nearest the bulb at will. However, this

[1] Read at a meeting of the Queensland Branch of the British Medical Association on August 4, 1922.

either limited the size of the picture too much or, if it was enlarged enough to allow a useful sized area to be included, allowed too many divergent rays to get through and so spoiled the result.

In Tousey's "Medical Electricity and Röntgen Rays," published in 1910, the author described what he called "Sinclair Tousey's Radiating Cellular Diaphragm." It consisted of a number of trumpet-shaped cells of sheet zinc about 12.5 centimetres (five inches) long and about half as large at one end as at the other. These were soldered together inside another large trumpet-shaped piece of metal opaque to X-rays. The focus point of the anode was then centred directly over the spot where the axes of these cells would meet. This was a great improvement on previous methods and sufficiently sharpened up details to enable a few cases of gall stones to be diagnosed more or less accurately. Anyhow, the gall stones were subsequently found at operation. However, even with this addition, it was impossible to get even moderately clear pictures of a thick subject, such as a spine in a patient weighing 95 to 127 kilograms (fifteen to twenty stone).

One reason why all attempts at improving detail by a diaphragm between the tube and patient had failed was that the direct rays produced what are now called "object secondary rays" in passing through a body and the thicker the body, the more secondary rays were produced. These secondary rays probably have a distinct usefulness in therapeutic treatment, but they have a distinct disadvantage in photographic work. As the secondary rays are produced after the primary rays enter the object photographed, they strike the photographic plate at all angles and produce the fogging of detail so noticeable in dealing with heavy subjects and they cannot be appreciably influenced by any of the older diaphragms large enough to give a useful sized picture.

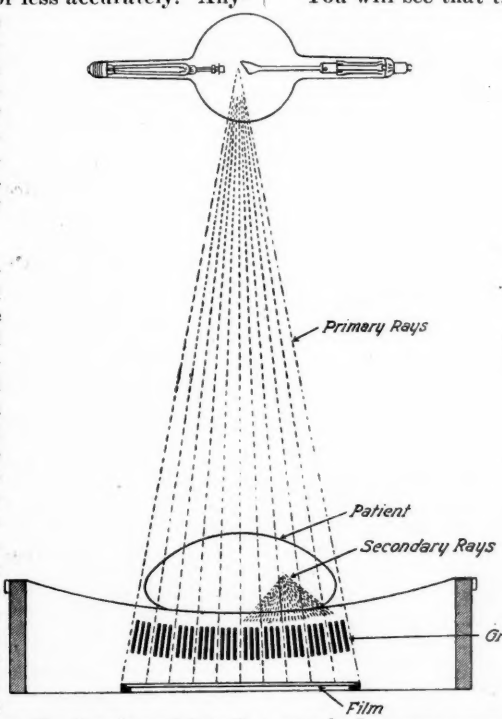
The Potter-Bucky Diaphragm.

Bucky in 1913 gave a description of his grid, which was interposed between the patient and the plate and which very successfully cut off these secondary rays, but which, unfortunately, left very noticeable grid shadows, much more objectionable than the blurring of the detail caused by the secondary rays. Later, as a result of an improvement by Potter, these grid shadows were eventually eliminated by causing the grid to travel across the plate between it and the patient during the time of exposure. This improved grid is now called the "Potter-Bucky Diaphragm." It was described in February, 1917, and again in 1920. The grid consists of very thin parallel strips of metal, 12.7 millimetres (half an inch) deep, spaced about 0.8 millimetre (one thirty-second of an inch) apart by strips of wood and arranged so that the more direct rays are not prevented from reaching the film, whereas the more diverging of the primary and the majority of secondary rays are cut off.

I think the accompanying diagram will explain better than words how this is accomplished.

The diaphragm consists of the grid and the timing mechanism to enable the grid to travel under the patient at any desired rate and a carrier to take the film or plate. That the resultant pictures are an improvement on former methods I think the comparative views will show.

You will see that the difference is most noticeable in the photography of heavy or thick parts, visible especially in the improved contrast between lights and shades and in the greater depth obtained. The improvement in depth is due to the fact that objects at varying distances from the film are nearly all moderately well outlined; in other words, they are in better focus. With the older methods, only those objects at practically the same distance from the film were visible at all or, if visible, were so out of focus as to be useless for diagnosis. This gives the impression of depth almost approaching to that obtained with binocular vision, although in reality it is only a monocular view.



There is a slight apparent loss of sharpness of detail. This loss is only apparent and is due to the fact that the extra distance of the film from the object photographed causes some magnification of all details. It is more than compensated for by the increased contrasts obtained.

The main disadvantage in the practical use of the diaphragm lies in the increased time of exposure necessary and, of course, this is a very marked disadvantage in photographing moving parts.

In the case of the kidneys, liver, gall bladder and lungs, this disadvantage can be overcome to a great extent by instructing patients to hold their breath during exposures and by the use of various compression devices. It is said that better pictures of gall bladder and lungs can be taken without a diaphragm and with double intensifying screens. However, I prefer the use of the diaphragm in these cases, as a rule, and will refer to them again later on.

In describing the actual use of the diaphragm, it would save time and simplify matters to group dif-

ferent portions of the body into regions, the areas in which there is a rough similarity from the radiographic point of view being arranged together, while the advantages which accompany the use of the diaphragm in these localities are explained. While doing so, I propose to show skiagrams. In some cases I have pictures of the same patient taken both with and without the diaphragm, in order to give you an idea of how the results compare with each other.

Cranium and the Accessory Sinuses.

Under the first subdivision, let us take the head and accessory sinuses. In this region there is no doubt that the advantage is greatly in favour of the diaphragm. The sinuses stand out more plainly on account of the greater contrast between the lights and shades. For the same reason there is an improvement in the appearance of the bone detail. That the detail is actually sharpened can be seen by examining the outlines of the teeth. The appearance of the teeth is nearly as good as that obtained when using dental films placed inside the mouth and the area included in a single view is, of course, much greater. Another advantage is the improvement in perspective.

One of the disadvantages in this, as well as in other parts of the body, is the increased distance of the film from the patient and in consequence slight movements on the part of the patients are more magnified than when the diaphragm is not used. The radiographer has to guard against them more carefully, otherwise the fine detail is spoilt. I always instruct patients to hold their breath during the exposure, whatever region is being taken. It seems rather an unnecessary refinement in technique to do so with head cases, but I have found that the result justifies the extra care necessary. The mere act of respiration when a patient is prone on a table, moves the whole head up and down. This is especially noticeable in stout persons and in some of these I find that the diaphragm has to be discarded and recourse made to direct methods without the diaphragm.

I am now going to show you some skiagrams in which dental cysts (or, more correctly, follicular odontomes) were diagnosed and you will see that there is no difficulty in visualizing them. In some instances these cysts are situated in localities where it is impossible to get a good view of them on a dental film.

The Thorax.

The next subdivision of the body which I will deal with is the thorax.

Better details of the ribs are procured and sequestra of the rib bones are more easily detected. Antero-posterior and lateral views of the thoracic vertebræ are obtained with much greater ease than was formerly the case.

The lung markings are shown with greater contrast, but I have still some doubt in my mind as to whether the apparently sharper detail of the ordinary picture does not offset this increased contrast. The difficulty in getting perfect freedom from respiratory movements probably accounts for the variable results. The exposure with the diaphragm is approximately from two to three seconds, whereas without the diaphragm it is only a matter of a fraction of a second. Consequently, time is allowed for small involuntary movements on the part of the patient. The element of uncertainty thus introduced (as to what the patient is going to do), makes one hesitate about using the slower exposure.

I am showing you two chest pictures, both of the same patient. One is taken with the diaphragm and the other without. In this case, respiratory movements have not occurred to any disturbing extent and the diaphragm picture is certainly a better one from a diagnostic point of view.

Heart Affections.

Heart affections are not very suitable on account of the continual movements of this organ, making a short exposure necessary. Perhaps when sufficient increase in the speed of films has been obtained, it may be possible with the use of improved technique to obtain satisfactory pictures of the heart by this method. At present the heart outlines are not sufficiently sharp.

The Stomach and Intestines.

With bismuth meals the diaphragm has the same disadvantages that I have mentioned in connexion with heart conditions. The pictures must be taken with the shortest possible exposure to obtain a sharp outline, which is the most important detail to secure. The length of exposure required with the diaphragm makes it difficult to secure the necessary sharpness of detail with any certainty. In addition there is no need for improvement in the contrasts obtained already with the ordinary methods. In screening a device similar to the diaphragm can be placed between the fluorescent screen and the patient, which certainly improves both the contrast and the detail thrown upon the screen. By means of this diagnosis is made easier in screen work. There is one disadvantage attached to it: the grid lines are very conspicuous if the tube is not centred over the centre of the screening grid. When one becomes accustomed to the presence of these lines, they are not disturbing.

Kidney and Gall Bladder.

There is no question that kidney outlines can be secured with much greater ease and regularity than was formerly the case and stone shadows now give no difficulties whatever, even in men weighing up to one hundred or one hundred and twenty-five kilograms (15 stone 10 lb. or 19 stone 9 lb.). These heavy subjects, who were once the *bête noir* of kidney work, no longer fill the radiographer with alarm. In regard to the interpretation of shadows when doing both kidney and gall bladder work, care must be taken to eliminate shadows, which, on the standards of the older methods, would be diagnosed as calculi, but which with diaphragm pictures are generally only intestinal contents.

I have here some illustrative views showing the difference between the old methods and the new. In one view there is a very good picture of a kidney shadow taken without the diaphragm and a similar view of the same kidney taken with the diaphragm.

The subject is one weighing about 82.5 kilograms (thirteen stone) and the diaphragm picture is rather a poor one, yet when you compare the two views, you will have no difficulty in picking out the diaphragm picture and to my mind there is no doubt which method, in this region at any rate, gives the better results.

In gall bladder work some of the most eminent radiologists prefer not to use the diaphragm on account of the length of the exposure necessary and the difficulty of restraining respiratory movements on the part of the patient. The least movement in this area results in a useless picture, because gall bladder shadows are usually so faint that the slightest movement entirely destroys their visibility. However, I prefer to use the diaphragm in these areas because, although, possibly, no gall stone or gall bladder shadow may be seen, the liver margin and kidney outline can be demonstrated with greater ease.

The Osseous System.

In the thinner parts of the body, such as the wrist, forearm, hand, feet, etc., there is not much advantage secured in using the diaphragm. These parts are so thin and usually so close to the film that better results are obtained without it. The reason is that the use of the diaphragm necessarily increases the distance from the film to the part under examination. In any of the heavier parts of the body, such as the spine, pelvis and shoulder or even the elbow, there is no question that this method gives the best results; with a little practice in interpreting the increased wealth of detail accuracy in diagnosis improves. Not so long ago it was very difficult and in some cases impossible to obtain a lateral view of the lumbar vertebræ in heavy subjects. With the assistance of the diaphragm no difficulty is now experienced.

Here are a few views of different spines, showing the improvement in detail and some of the pathological conditions commonly seen in cases with undiagnosed lumbar pain. Most of these cases were sent to me with a provisional diagnosis of renal colic. My experience has been that, although in the majority of them no renal calculi are to be found, yet in a very large number osteophytic growths can be seen projecting from the lateral borders of the vertebræ.

In conclusion, I think the advent of the diaphragm has marked one of the greatest advances in present-day methods of X-ray diagnosis. It has made easy what were formerly difficult subjects and it has made possible a useful opinion on subjects which were formerly impossibilities.

DELAYED TESTIS.[1]

BY ALAN B. MCCUTCHEON, M.B., B.S. (MELBOURNE),
Melbourne.

IN introducing this subject to your notice this evening I feel that a word of explanation is necessary concerning its title. I have purposely discarded the old term "undescended testis" as being loose and misleading and have chosen the title "delayed testis" for two reasons:

(1) Descent of the testis commences during intrauterine life with the first movement of the testis downwards from its developmental position behind the abdominal parietal peritoneum, so that by the time it has attained a position in the inguinal canal or at the external abdominal ring, although it has not become a scrotal organ, yet it can hardly be described accurately as undescended.

(2) It is hoped that the evidence brought forward in this paper will be sufficiently convincing to show that the delay in the attainment by the testis of its normal scrotal position is in nearly every case purely and simply a delay and not a permanent arrest.

On these grounds then it has seemed preferable to refer to the condition under the title of "delayed testis."

I do not propose to discuss this condition in all its aspects, but rather to bring before your notice certain particular features in connexion with it, with special reference to incidence, prognosis and treatment. Such things as the mechanism of the normal descent of the testis from its original status of an abdominal organ to that of a scrotal one and the various wrong turnings it may take or stoppages it may experience on the road do not come within the scope of this paper, the main object of which is to establish three definite principles:

(1) That delayed testis is far more common a condition among boys of average health and development than is generally supposed.

(2) That, if left to its own devices, without operative interference, the delayed testis will in the vast majority of instances attain its normal anatomical position before or about the age of puberty and without atrophic change.

(3) That the oft-repeated statement that delayed testis is usually or frequently accompanied or followed by inguinal hernia is one which has gained credence by frequent repetition, but which the results of investigation of actual figures fail to confirm.

These three principles, it is hoped, will be firmly established by bringing before you the results of the routine medical physical examination of 1,845 boys at one of our large Melbourne public schools. It is fitting here to express my indebtedness to Dr. F. Hobill Cole, whom I was assisting in these examinations, for his permission to publish the results of this investigation and to acknowledge also the work of Dr. J. D. King Scott and Dr. F. Kingsley Norris, who assisted in the examinations.

This routine medical examination of the boys was commenced in 1919, so that the records of examination for four years were available for analysis. During that four-year period 1,845 boys were examined; a large proportion of them were re-examined in succeeding years. The great importance of a careful examination of the inguinal regions was recognized at the inception, so that every boy was closely examined for hernia, whether actual or potential. The frequent incidence of delayed testis was noted quite early in the series and, as each boy had his medical inspection card on which any departure from normal was recorded, a very complete record is available. Furthermore, each boy was re-examined an-

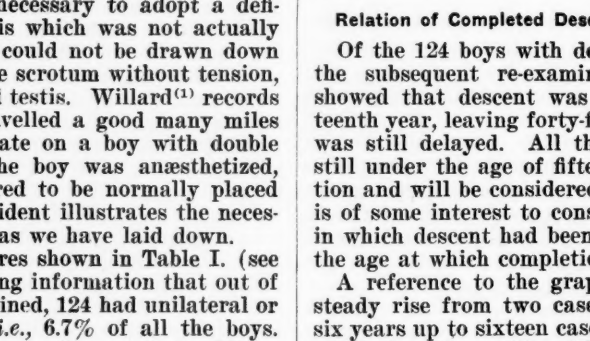
[1] Read at a meeting of the Melbourne Pædiatric Society on July 12, 1922.

nually up to the time of leaving school, so that it was possible to follow up many of the cases.

Standard Adopted.

Recognizing the effect of cold (the boys were stripped for the examination) and the stimulation by handling the scrotum in causing the testis to retreat to the shelter of the external abdominal ring, it was considered necessary to adopt a definite standard. Any testis which was not actually in the scrotum or which could not be drawn down and induced to stay in the scrotum without tension, was regarded as a delayed testis. Willard[1] records the fact that he once travelled a good many miles into the country to operate on a boy with double delayed testis. When the boy was anæsthetized, both testes were discovered to be normally placed in the scrotum. This incident illustrates the necessity for a standard such as we have laid down.

An analysis of the figures shown in Table I. (see below) gives the interesting information that out of a total of 1,845 boys examined, 124 had unilateral or bilateral delayed testis, *i.e.*, 6.7% of all the boys. Dividing the boys into two classes, those fifteen years of age and over and those under fifteen years, the figures become still more striking. Out of 590 boys first examined at the age of fifteen or over, only one could be found with delayed testis, *i.e.*, only 0.16%, whereas of 1,255 boys first examined under the age of fifteen no less than 123 were found to have delayed testis. This is surely a remarkable fall in percentage from 9.8% under fifteen to 0.16% over fifteen. We are, I think, bound to conclude that at or about the fourteenth or fifteenth year there is some factor which causes the incidence of delayed testis to fall abruptly from a 9.8% frequency to a 0.16% scarcity. It is evident that the normal hurrying up of developmental processes and physical growth, which is associated with the period of puberty, is the factor at work in hastening the last stages of descent of the delayed testis and this will be shown from a different angle in a later table. The results of examination of the smaller preparatory school-boys, whose ages varied from five to eleven, gave an even higher percentage of incidence. Of 275 boys, 49, or 17.8%, were found to have delayed testis.



The majority of delayed testes then would appear to reach the scrotum spontaneously before or about the age of puberty. One boy only out of 1,845 was found to have delayed testis after the age of fifteen—a very strong argument in favour of expectant treatment.

Relation of Completed Descent to Age of Completion.

Of the 124 boys with delayed testis in the series the subsequent re-examination of 80 (or 64%) showed that descent was complete before the sixteenth year, leaving forty-four boys in whom descent was still delayed. All these forty-four boys were still under the age of fifteen at their last examination and will be considered in more detail later. It is of some interest to consider the number of cases in which descent had been completed in relation to the age at which completion was effected.

A reference to the graph shows that there is a steady rise from two cases showing completion at six years up to sixteen cases at fourteen years, after which there is a sudden fall to three at fifteen years, one at sixteen years, down to zero after the age of sixteen. This graph expresses in another way the tremendous fall in incidence with the onset of puberty.

There still remain forty-four cases in which completion of descent has yet to be accomplished. What progress do they show, if any, and what is the prognosis? Let us consider them in more detail. Of the whole forty-four boys, only one appears to be really hopeless and that one is the boy, aged sixteen years, who constitutes the 0.16% in Table I., Class 1. His left testis was apparently normal, both as to size and position in the scrotum. The right testis, however, was palpable high up in the inguinal canal and felt smaller than the left. This testis, even should it descend later, as is quite possible, would be better removed, as it is probably atrophic and functionless and, according to many writers, exposes its owner to a definite, even if small, risk of sarcomatous degeneration in later years.

Nineteen others in this class have been examined once only and so progress notes are not available. Two of these are fourteen years of age and the others thirteen or under, so that there is reason for hoping (*confer* figures for the age of fourteen in the graph) that descent may be normally completed by the age of fifteen years.

Of the remaining twenty-four in this class there are two boys originally noted on first examination as having bilateral delayed testis, aged nine and six years respectively, who, at the respective ages of

TABLE I..

Class.	Number Examined.	Delayed Testis.	Percentage.
Class 1: Boys 15 and over	590	1	0.16%
Class 2: Boys under 15..	1,255	123	9.8%
Total	1,845	124	6.7

twelve and seven, had one testis completely descended and normal and the other testis still delayed. The prognosis in these cases is good.

Another boy, thirteen and a half years of age at first examination, was noted as having right delayed testis; he was examined again at the age of fourteen years and five months, when the right testis was still absent from the scrotum. Twelve months later, at a third examination, he was found to have been operated on and still no testis on the right side. We have no record of what was done at operation, but probably difficulty was experienced in anchoring down the testis and it was removed. This is the only boy in the whole series on whom operation was performed as far as could be ascertained.

In another boy, noted as having right delayed testis at the age of thirteen years and two months, seven months later the right testis was palpable at the external abdominal ring and could be drawn down. This testis no doubt would have achieved the normal position before the age of fifteen.

Of the remaining twenty boys, one boy, aged twelve at his first examination, showed no progress of bilateral delayed testis by the age of fourteen. This boy was under-sized, under-weight and pigeon-chested and exhibited a poor standard of development all round. His prospects as regards normal completion of descent may be regarded as doubtful, but still hopeful. Another boy, thirteen years of age on examination, showed a very poor standard of nutrition; his genitalia were diminutive and both testes were delayed. The onset of puberty may or may not determine completion of descent in his case.

The remaining boys of ages varying from eight to twelve years showed varying progress from no palpable testis to testis palpable at the external ring and the great majority of these would probably achieve complete descent quite normally.

It is interesting to note that unilateral and bilateral delay were almost equally distributed; in sixty-one cases it was bilateral and in sixty-three unilateral, whereas of the unilateral cases forty-eight, or 76%, were noted as being on the right side.

Relationship of Delayed Testis to Physical Type of Boy.

Regarding delayed or arrested descent of the testis as being a departure from the normal completion of a developmental process, one would be stimulated to search in these boys for other evidence of poor or faulty development. In our experience in this series the majority of the boys with delayed testis conformed well to the average standard of development. The two boys aged fourteen and thirteen, referred to above, in whom the prospect of completion of descent of the testes into the scrotum was considered doubtful, were both noticeably below the average standard of nutrition and development. In some cases the boys were noted as being short in stature and their genitalia infantile in appearance, but these features, in the boys whom we were able to follow up, rapidly approached the normal with the advent of puberty. A few of these very short boys with delayed testes and infantile genitalia had an associated tendency to adiposity, suggesting a mild degree of hypopituitism of the Fröhlich type.

Relationship to Inguinal Hernia.

It has been freely stated in text-books that delayed completion of descent of the testis is usually or very frequently associated with or followed by inguinal hernia. Mr. Hamilton Russell[2] has pointed out that delayed descent of the testis leaves a patent funicular process and that in consequence, anatomically speaking, the potentiality for inguinal hernia is very great in these boys. The results of our investigations would make it appear that, though this potentiality has been confused with and even made to appear an actuality in text-book statements, this actuality as far as the periods of infancy and adolescence are concerned, is not confirmed in our figures. Special care was taken in our series in examining the scrota and inguinal regions for evidence of hernia, whether actual or potential. All boys in whom any degree of bulging over the inguinal canal or through the external ring, any enlargement or relaxation of the external ring or any impulse on coughing was detected, were carefully noted and the condition recorded on the cards. Although it is not possible to say definitely that any one individual in the series will or will not develope an inguinal hernia in later years, say, in the third or fourth decade, it seems reasonable to regard those who do not exhibit any of the above-mentioned conditions as being free from hernia and it is on this standard that our record is based. If the majority of cases of delayed testis are associated with or followed by inguinal hernia, then the figures showing the incidence of the two conditions should be in some way comparable and should to a certain extent overlap.

An analysis of the figures shows that this is not the case. Out of the 124 cases of delayed testis, in four boys only was hernia found to co-exist and in none in the whole series was there evidence of hernia developing during adolescence.

1. Boy, aged thirteen and a half years, had a left delayed testis. A herniotomy scar was seen in the right inguinal region. Six months later both testes were found normally placed and there was no evidence of hernia.

2. Boy, aged fourteen years, had a delayed right testis. It was noted that there was a slight tendency to right inguinal hernia. The slight tendency noted may have been the testis itself causing slight bulging. This is the only boy in the whole series who showed hernia coincident with and on the same side as delayed testis. This boy left school and no further notes were available.

3. Boy, aged nine years, had a double herniotomy scar and both testes were delayed. In this boy, at the age of twelve, the right testis was in the scrotum and the left still absent.

4. Boy, aged nine years, was noted as having "slight (?) impulse at the right external ring." He had also delayed left testis. Two years later the left testis was down in the scrotum and there was no evidence of a hernia at either ring.

In no case was any tendency to hernia noted after descent of the testis, though carefully looked for, and this is not surprising when we compare the figures and realize that the two conditions are not

interdependent to the extent the text-books would indicate.

In order to determine this point the numbers of herniæ discovered in the series have been tabulated. Including the four cases described above as associated with delayed testis, there were altogether forty-four inguinal herniæ, representing 2.3% of the whole series. These are subdivided as follows:

Condition.	First Examination.	Subsequent Examination.
Actual Hernia	12	8
Hernia Cured by Operation or Truss	23	27
Potential Hernia (Cough Impulse Bulge or Relaxed External Ring)	9	9
Totals	44	44

Of the twelve boys with actual hernia, eleven were reported to the parents as requiring operation. In four instances the advice was taken, so that the second column now represents the true figures.

Relatively inguinal hernia is of much less frequent incidence than is delayed testis, occurring in 2.3% only as compared with 6.7% of the latter. As a test of the relationship between the two conditions, let us make the generous concession that 5% of all herniæ are consequent on late completion of descent of the testis. In our series, then, 5% of forty-four, *i.e.*, two or three boys out of the whole 1,845, would be able to ascribe their herniæ to this cause, whereas 124 boys had delayed testis. A simple calculation gives us 1.7% of delayed testes resulting in inguinal hernia. This small percentage would not appear to constitute sufficient grounds for operating on every boy with delayed testis; expectant treatment seems to be strongly indicated up to the age of puberty. The advice given in the nursery rhyme concerning Little Bo Peep's sheep seems to be applicable in this case: "Leave them alone and they'll come home" and the critics may be anticipated by adding: "Without an inguinal hernia behind them."

Conclusions.

1. That delayed testis is a common condition in boys under the age of puberty, being relatively nearly three times as common as inguinal hernia.
2. That after the age of puberty, the condition is relatively rare.
3. That the normal hurrying up of developmental processes associated with the onset of puberty plays a part in hastening the completion of descent of the delayed testis.
4. That the sequential relationship between delayed testis and inguinal hernia is not proven and the weight of evidence is against it.
5. That the condition displays a definite and constant tendency to spontaneous cure and that routine surgical interference at any stage before puberty is contra-indicated.

References.

(1) Willard: "Surgery of Childhood."
(2) Russell, R. Hamilton: *British Journal of Surgery*, April, 1922.

Reports of Cases.

PEMPHIGUS OF THE CONJUNCTIVA.[1]

BY G. H. HOGG, M.D., C.M., (EDINBURGH),
Launceston.

I PROPOSE to bring before you to-night some notes on a rare disease, pemphigus of the conjunctiva or essential shrinking of the conjunctiva of which during my practice in Tasmania of twenty-six years I have seen four cases.

CASE I.—The patient was a female infant. There was slight, very sticky secretion from the eyes, lachrymation and redness of the conjunctiva, with one or two spots coated with greyish secretion. Shrinking of the conjunctiva was evidenced by the shallowness of the lower conjunctival sac. There were ulcerated sores on the buccal mucous membrane and a few small bullæ were to be seen on the limbs and trunk, together with the reddish scars of old spots. The child was poorly nourished, but there were no signs of syphilis and the parents were healthy.

CASE II.—This patient was a male infant of six months who showed a condition somewhat similar to that described under "Case I.," except that the shallowness of the conjunctival sacs was more marked. A bulla was seen on the palate and there were several red scars on the skin. The parents had been told some weeks before that the child had "native pox." This infant, who had taken the breast well until the mouth had become sore a few days before I saw it, began to refuse to suck and died about six weeks afterwards. There was no history of syphilis and the parents were healthy.

CASE III.—A female, aged fifty-two years, married, gave a history of a skin rash of two to three months' duration. Numerous small red marks (of healed bullæ) and three fresh bullæ about the size of a pea were seen on the body. The face was swollen and puffy, the eyes having a half-closed appearance, with some drooping of the upper lids. The conjunctiva was reddened and in the lower lid of the right eye were three papules, one very minute, one not quite so small and one larger, corresponding in appearance to developing bullæ of the skin. There was commencing shrinkage of the conjunctival sac. This patient was seen twice, but, apparently being dissatisfied with the treatment, went elsewhere and has not been traced.

CASE IV.—A male, aged forty-six, married, by occupation a miner, was seen by me in December, 1917, complaining of sore throat and pain in swallowing. He had been under treatment at the General Hospital and elsewhere for some months. On examination of the throat the pharynx was found to be congested and covered with a greyish-white film in patches, the whole appearance being not unlike the mucous patches of secondary syphilis. A small ulcer was seen on the epiglottis and two small, white spots on the tracheal mucous membrane, all of these being surrounded by areolæ of congestion. The conjunctivæ of both eyes were hyperæmic, thickened and swollen and the eyes were filled with a greyish yellow discharge, which was very sticky and difficult to remove. The eyelids were thickened and the upper ones were inverted, the lashes causing a good deal of irritation. In the right eye the lower *cul de sac* was much shrunken, as was also the upper, though to a less degree, and it was impossible to evert the upper lid. The swollen, thickened conjunctiva seemed to be encroaching as a fold over the corneal margin. The cornea was clear and the vision very fair apart from the photophobia, lachrymation and irritation which were associated with the condition. In the left eye the lower *cul de sac* was obliterated and the upper one was much shrunken. The cornea was becoming opaque, except at the centre, which was still clear. A small ulcer was found at the reflection

[1] Read at a meeting of the Tasmanian Branch of the British Medical Association on June 9, 1922.

of the prepuce on to the *glans penis*. There was a history of a skin rash, but nothing was then to be seen except marks of scratches. There was no history of venereal disease and a Wassermann test failed to elicit a reaction. As time went on the eyes became worse, the irritation of the eyelashes of the upper lids becoming so great as to necessitate the performance of an entropion operation. The left cornea became more and more opaque and the sight was reduced almost to vanishing point in that eye, while in the right eye the disease for a time remained at a standstill. The mucous membrane of the mouth became sore, superficial ulcers continuing to form and disappear. The voice became husky and reduced at times almost to a whisper, the larynx evidently being more and more affected. No laryngeal examination was made at this stage, however, owing to the soreness of the mouth and throat. There were several days in which the patient complained of pain and burning on micturition, as if there were sores in the urethra. On June 15 a bulla was seen on the left side of the palate and on July 1 another appeared on the skin of the right eyelid. Under full diet and arsenic this patient's general condition improved considerably, although the eyes became steadily worse. After some months he entered the Public Hospital, where, according to his statement, he was treated by mercurial injections. He lost weight rapidly, his mouth and throat became worse and the ground gained before was not recovered. He lingered for some months after his return to his home in the country. Autogenous vaccines prepared by Dr. Bull had been tried by me without any effect, good or bad. When last seen the eyes were almost sightless, the cornea dry and opaque, not unlike the appearance of a dried fish's eye, fine flakes at times separating from the corneal surface.

FIGURE I.
Pemphigus of the Conjunctiva, showing Thickened Conjunctival Folds Encroaching on the Cornea.

Pemphigus of the conjunctiva is fortunately a rare disease. Cases have been shown from time before the Ophthalmological Society of Great Britain and reports published in the transactions of that Society. Franke and Pergens have published monographs on the subject. The disease begins with redness of the conjunctiva, accompanied by a certain amount of sticky, muco-purulent secretion. There may or may not be small papules or bullæ present, although the actual bulla is very seldom seen, owing to the fact that the epithelium of the conjunctiva is so delicate that it cannot, like the epithelium of the skin, be raised up by the exudation, but quickly breaks.

As the process goes on, cicatrization and shrinking of the conjunctiva takes place slowly, but not at all steadily. The conjunctival *culs de sac* become shallower and are finally obliterated; folds of conjunctiva stretch from the lids to the eyeball and the movements of the eyeballs become impaired. The secretion of the eyes, which may at first have been increased, becomes diminished, the surface of the eyes becomes dry, the cornea becomes opaque and may ulcerate; in advanced cases it often becomes dry and lustreless and fine scales may be shed from it. Trichiasis and entropion may develope and the lids may become totally adherent to the eyeball. Small, bluish cysts have been described as occurring in this disease, as also a cystic condition of the outer canthus due to retention of the tears.

Pemphigus of the conjunctiva is often found associated with pemphigus of the mucous membranes of the mouth and throat and also of the skin, although Fuchs found that its association with pemphigus of the skin was comparatively rare. Dr. Bull, of Melbourne, who examined cultures for me, reported the presence of bacilli of the type of Friedländer's diphtheroid bacilli and Gram-positive and Gram-negative cocci, the presence of some of these being probably due to contamination. Demme isolated the coccus which bears his name in the cases of pemphigus of the skin and Plimmer in Silcock's case isolated similar organisms, but as to the causal relationship, it seems impossible now, as then, to speak positively. The prognosis of such cases is most unfavourable, although occasionally a patient recovers, as happened in the case of a boy who was for some time under the observation of Dr. Barlow and Mr. Nettleship. When, however, the eye, mouth and throat are involved, treatment seems but of little avail and the condition usually progresses steadily towards more or less complete blindness.

Arsenic is often given and sometimes seems to exert a beneficial influence, if not on the eye condition, at least on the general health. Mercury and iodides have been sometimes given in error, the condition being mistaken for syphilis. They have a most harmful effect and should never be used.

Soothing lotions and oily applications may be used for the eyes and, if necessary, operations for the trichiasis and entropion may be tried. Nothing, however, has any permanent effect.

FIGURE II.
Pemphigus of the Conjunctiva, showing Bullæ on Eyelid.

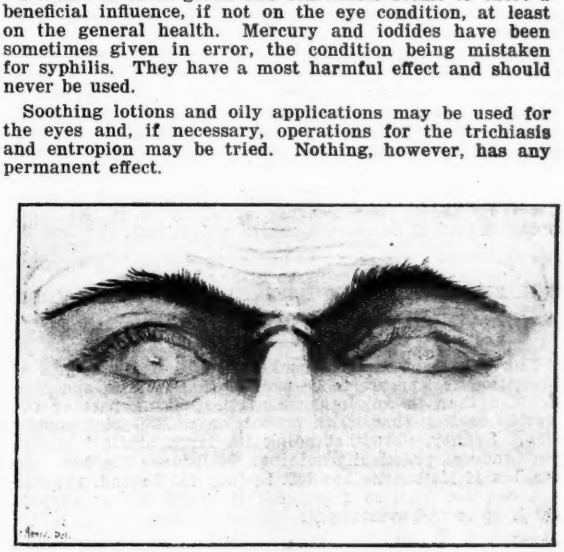


FIGURE III.
Pemphigus of the Conjunctiva: Final Stage; Corneæ Dry and Opaque, with fine flakes separating from them.

Reviews.

DOSAGE TABLES FOR DEEP THERAPY.

DR. R. MORTON, by editing the English translation of "Dosage Tables for Deep Therapy" by Professor Friedrich Voltz[1] has made available to his British co-workers a large fund of very important information and it must be added that, although the text is not entirely free from the usual heaviness of the German form of presentation, it leaves little to be desired.

The basic difficulty that confronts all workers in deep therapy is the lack of standardized technique for the purpose of comparing results. These tables represent the calculated and experimental results of Professor Voltz's work with the use of 0.5 millimetre zinc filters; they would be invaluable to any worker using such filtration, enabling him to compare his results with those of other workers using the same filtration and employing these tables as a guide.

The tables are based on the "percentage of the depth dose," this being the ratio, expressed as a percentage, between the intensity at a depth of ten centimetres and that at the skin surface when the focal-skin distance is twenty-three centimetres and the port of entry six by eight centimetres. The ratio must be determined accurately before the tables can be employed and Professor Voltz gives the necessary details for its determination, favouring the iontoquantimeter method of estimating intensity. Second in order of accuracy for this purpose he places the Kienbock strips and the selenium cell third, in contradiction of the work of Kroenig and Friedrich, which seems to show that the order of these should be reversed.

Given the percentage of the depth dose under the conditions specified the radiologist can readily find out by means of the tables the percentage of the skin dose that a point at any depth up to twenty centimetres in the tissues receives for any focus-skin distance up to one hundred centimetres and for all ports of entry up to four hundred centimetres. It is to be noted, however, that these figures obtain only for the central ray.

In actual practice the method is found to be cumbersome and incomplete. The information contained in the tables is extensive, but it is not presented in a form which lends itself to rapid and accurate working. It lacks information regarding the radiation occurring outside the line of the central ray. This information is of vital importance when working with any but the very small ports of entry.

Dessauer's charts are much more rapid and more accurate and when a limited number of variations in technique are used, they are most satisfactory. Although the number which would be required to contain all the information which are furnished in Voltz's tables would be very large, they will remain the more popular. Voltz's tables may be used as an additional safeguard.

No one interested in deep therapy can afford to be without these tables, the accuracy of which is of the same order as that of Dessauer's charts of iso-doses.

[1] "Dosage Tables for Deep-Therapy," by Professor Friedrich Voltz; Edited by Reginald Morton, M.D.; 1922. London: William Heinemann (Medical Books), Limited; Crown 8vo., pp. 98, with 16 illustrations. Price: 10s. 6d. net.

THE EXAMINATION OF PATIENTS SUFFERING FROM SURGICAL AFFECTIONS.

THE output of medical books, whether for students or practitioners, appears to be smaller in Australia and New Zealand than in any other English-speaking part of the world, smaller, that is, in proportion to the total population. Sydney, notwithstanding its large medical school, has produced practically nothing. Melbourne has done better, but if Melbourne has left Sydney far behind, the output has not been so great that it would not be easy to catch up to and overtake it.

Here, however, we have a book,[1] not a large one certainly, not only written, but printed and published in New Zealand. The writer is Dr. Renfrew White, Assistant Surgeon and Surgeon-in-Charge of the Orthopædic Department, Dunedin Hospital. It puts forth a number of systematized schemes of clinical examination for the guidance of students and practitioners in their clinical work. Dr. Renfrew White believes that it will be of use in teaching students systematic methods of examining and case-taking and as a means of improving the case-records in hospital work. If that be achieved, it follows that the problems of diagnosis will be better solved. We think that the adoption of Dr. Renfrew White's method will do what it claims and we think that the book would be found of considerable use to students and younger practitioners who are anxious to acquire good methods and to avoid bad ones. It will also prove most useful as a check by which the practitioner can criticize his own work, so as to find out his deficiencies of method in any given case or class of cases.

Why buy a big, inflated, verbose American book when you can get a smaller, succinct and yet complete book that is Australasian if not Australian?

[1] "The Clinical Examination of Surgical Cases: A Handbook for the Use of Students and Practitioners," by J. Renfrew White, M.B., F.R.C.S. (Eng.); 1922. Dunedin, New Zealand: J. Wilkie & Company, Limited; Melbourne: James Little; Post 8vo., pp. 129, interleaved. Price: 10s. 6d..

DISEASES OF WOMEN.

THE "Text-Book of Gynecology," written by Dr. James Young, is well up to the standard of the previous works which have appeared in A. & C. Black's "Edinburgh Medical Series."[2]

Dr. Young has for many years been a successful teacher of obstetrics and diseases of women and has earned a reputation for his valuable research work on eclampsia and other subjects.

The book is arranged in sections. That on anatomy is enhanced in value by the reproduction of many excellent plates and by original drawings, while the modern accepted opinion on the special physiology of the female generative organs is presented in a lucid manner.

In the section devoted to examination of the patient, attention should have been directed to the necessity of eliciting details as to the puerperium when the history of an illness is being taken. We cannot subscribe to the advice that the lateral position should be preferred to the dorsal, certainly not for the inexperienced. Why should Kelly's cystoscopy be preferred to other more modern, less painful and easier methods?

It surely must be seldom necessary to anæsthetize a patient in order to procure pus from the endocervix for bacteriological examination. The statement that vigorous curettage of the uterus, followed by strong caustics, may in some cases of gonorrhœa be followed by cure, is not borne out by experience and certainly should not be advocated in such a text-book.

Exception must be taken to the misleading and inaccurate manner in which the term "fixation" of the uterus is used in connexion with the Alexander-Adam and suspension operations in the description of the treatment of prolapse and again in the section devoted to operations. It is to be regretted that the author has not noted the advisability of mobilizing the bladder and vagina around the fistula in vesico-vaginal fistula and then suturing each separately.

In a new edition some of the figures should be re-drawn and others should be deleted, such as Figures 64 and 66, which are the same as Figures 60 and 62.

Despite criticism of some of the methods advocated, we consider the book can be highly recommended. It should appeal more particularly to the student by reason of its convenient size and the excellent and accurate manner in which it has been written.

[2] "A Text-Book of Gynecology," by James Young, D.S.O., M.D., F.R.C.S. (Edin.); 1921. London: A. & C. Black, Limited; Crown 8vo., pp. 334, with 183 illustrations. Price: 15s. net.

The Medical Journal of Australia

SATURDAY, SEPTEMBER 23, 1922.

The Incorporation of Branches.

Last year Dr. R. H. Todd conducted negotiations with the Organization Committee of the British Medical Association and with the legal advisers of the Association in regard to feasibility of amendments of the Articles and By-Laws to enable overseas Branches to become incorporated under well-defined safeguards without sacrificing the rights and privileges attaching to units of the Association. It will be remembered that, thanks to his able advocacy, the Organization Committee, the Council and the Representative Body in turn agreed to abandon the proposals that had been made and to adopt amendments and new articles and by-laws to give effect to the real requirements of the Australian Branches. The Solicitor of the Association, Mr. W. E. Hempson, and the Counsel, Mr. Colquhoun Dill, were instructed to re-draft the amendments. On December 24, 1921, the Council published in the Supplement of *The British Medical Journal* the re-drafted amendments. Correspondence passed between the Federal Committee and the Council in regard to some minor points in the amendments and the Council replied that the suggestions of the Federal Committee would be embodied in the Articles to be submitted to the Representative Body. On July 21, 1922, the Representatives at their Annual Meeting in Glasgow adopted the amendments in the form finally approved by the Council. The alterations of the Articles had to be accepted by an extraordinary general meeting and this was done on the same day. A further meeting had been convened for August 8, 1922, for the purpose of confirming the decision of the extraordinary general meeting of July 21, 1922. It is unlikely that a sufficiently large attendance was obtained in London on August 8. In the absence of a quorum of one hundred members, the meeting stands adjourned for one week and the business is then transacted by those present. We may therefore assume that the amended Articles as well as the amended By-Laws have by this time received constitutional sanction. The reader will find on another page the amended and new Articles and By-Laws as adopted by the Representative Body and for the sake of comparison the corresponding clauses before amendment.

The members of the medical profession in the Commonwealth of Australia have every reason for gratification. For several years the want has been felt for a wider measure of autonomy of the Branches, but under the constitution self-government by Branches was hemmed in and limited. Since the re-organization in 1902 the Divisions and Branches have been given certain powers, rights and privileges, but they have been mothered by the Representative Body, which is the governing body of the Association. The Divisions, being the units of the Association for purposes of management, could not be given authority to introduce binding regulations on the members, since these regulations might be in conflict with regulations obtaining in other Divisions. It was held that representation in the Representative Body, which had the power to determine all matters of policy and of constitutional action, would suffice to safeguard the interests of every group of members. Under the conditions obtaining in the United Kingdom the Divisions endeavoured to carry out all necessary organization and to hold scientific and social meetings for the benefit of the members without seeking to exercise the functions of a self-governing body. The Branches in the United Kingdom had even less need for autonomy than the Divisions, for they existed merely as groups of Divisions and as bodies competent to coordinate certain activities within a relatively wide area. It has, however, become more or less apparent in the course of years that this method of spoon feeding and of restricted activity has militated against the acquisition of power and the exercise of many of the functions of the parent Association. In consequence, the strength of many of the Divisions in the United Kingdom has been much smaller than it should have been. The position for Divisions outside the United Kingdom is different. It must be remembered that the Branches in Australia are actually Divisions, inasmuch as they are the recog-

nized units for representation in the Representative Body. It is quite obvious that the policy governing professional matters in Australia does not necessarily correspond with that in the United Kingdom. The very life of the Branches depends on their activity and on their power to control their own affairs. It is true that the overseas Branches have been freed from some of the spoon feeding restrictions that apply to Divisions in the United Kingdom. For instance, they have been allowed to fix the rate of subscription and to collect the fixed subscription from the members. A certain amount is transmitted to the headquarters of the Association for Association purposes. In Australia there has been great activity in the majority of the Branches, with the result that with but few exceptions every reputable medical practitioner becomes a member. The members demand assistance in many directions from the Branch Councils and recognize the authority of the Branch Councils to direct the policy of professional life. In these circumstances the organization of the Branches has become increasingly complex until each Council resembles a miniature headquarters. Little wonder that the members insisted on a full measure of autonomy. That this has been granted with reasonable safeguards and limitations is of paramount importance. Emphasis must be given to the fact that the demand for autonomy was linked with a determination to remain within the Empire-wide organization and to retain the right to use the proud title, "British Medical Association."

The events that have culminated so happily, have a further significance. The Representatives and the members of the Council have always exhibited interested concern in the welfare of the Branches of the Association in the distant parts of the Empire. But the distance itself and the circumstances peculiar to medical life in the Commonwealth tended to erect an invisible barrier which seemed to separate members in the United Kingdom from the members in these distant lands. Lack of knowledge of our affairs and a want of understanding of our problems no doubt led to an ill-defined feeling that the mutual relations were strained. The negotiations and the personal intermediation of Dr. R. H. Todd and of Mr. W. E. Hempson have worked wonders in re-establishing close and friendly relations. Moreover, the Council has within recent years learned that the three thousand members of the British Medical Association in Australia are loyal citizens of the great Empire, that they have used the power of the Association wisely and well and that they have enhanced its reputation in a very remarkable manner.

The preliminary stages have been completed. It now becomes the duty of the Branches to take advantage of the newly acquired powers to strengthen their position and to carry out the objects for which the British Medical Association was founded more completely than they have been able to do in the past. The power for good of an intelligent democracy with good organization is unlimited. Every member of the Branches in Australia should make the affairs of his Branch a personal matter and should spare neither time nor energy in promoting the honour and interests of his profession.

EPIDEMIC INFLUENZA.

A FEW weeks ago attention was called in these columns to the work of Dr. Arthur L. Bloomfield on the significance of the bacillus of Pfeiffer in the ætiology of influenza. We have just received a report by Professor James McIntosh on the ætiology of epidemic influenza.[1] In the introduction the members of the Medical Research Council pointedly recall the fact that in a previous report published by the Council the writers expressed views which are at variance to those expounded by Professor McIntosh. The Council does not hold itself responsible for the scientific conclusions reached by the authors of the official reports. The thesis of Professor McIntosh's studies is that *Bacillus influenzæ* is the causal organism of influenza. He attacks the problem by ascertaining whether Koch's postulates in this connexion can be satisfied.

The first point examined is the incidence of the bacillus in epidemic influenza and the relation of the bacillus to the chief lesions. Like every other investigator, the author and his colleagues at the London Hospital have found *Bacillus influenzæ*, pneumococcus, streptococcus, staphylococcus and Gram-negative cocci in the sputum and lung tissues of persons infected with or dead of influenza. It may be conceded at once that of these groups of organisms the first named is the commonest. It was found in between 60% and 94% of the specimens examined. The evidence on which Professor McIntosh bases his contention that the distribution of the bacilli corresponds with the localization of

[1] "Studies in the Ætiology of Epidemic Influenza," by James McIntosh, M.D.; Special Report Series, No. 63, Privy Council, Medical Research Council, 1922.

the most important lesions, is by no means convincing. At first bacilli are found in the respiratory tract in small numbers. He regards influenza as primarily an acute inflammation of the respiratory tract with involvement of the lungs, ultimately characterized by a hæmorrhagic œdema and bronchopneumonia. It may be questioned whether the pulmonary involvement is an essential process of influenza. Clinical experience would rather suggest that the majority of persons infected with the epidemic disease escape this complication and that, when it occurs, it partakes of the nature of a pulmonitis gradually attacking large areas of lung tissue. Professor McIntosh admits that at first the bacilli of Pfeiffer are limited to the mucous exudate in the bronchi and trachea. Later they are found in the alveoli, but rarely in the inter-alveolar tissue. Moreover, he points out that they are usually associated with so large a variety of bacteria that it is impossible to enumerate the several types. It would thus seem that his claim of a coincidence between the distribution of the influenza bacilli and the lesions is not well founded. At best it can be stated that the bacilli, like other micro-organisms encountered in influenza, invade the respiratory tract and that influenza is primarily an infection of the upper respiratory passages.

The second postulate is easily satisfied. *Bacillus influenzæ* of Pfeiffer can be cultured on artificial media and can be propagated by passage through laboratory animals. The third requirement, however, is the most difficult of all. It is that the disease can be reproduced by the artificial introduction of the virus into other animals. Professor McIntosh wishes his readers to recognize a pathogenic action of this bacterium. He has passed the organism through monkeys and states that, while the majority of the strains or cultures proved practically avirulent, a few were found to be highly virulent. Two or three cubic centimetres of a twenty-four to forty-eight hour culture in broth containing pieces of fresh rabbit kidney caused death of guinea-pigs after intraperitoneal injection. In other experiments he emulsified the surface growth of boiled blood-agar slants. Death resulted within twenty-four hours of mice weighing twenty grammes when from two to four milligrammes of bacilli were injected intraperitoneally. In other words, the lethal dose of these virulent bacilli was 0.1‰ of the body weight. A man weighing seventy-five kilograms would require seven and a half grammes of bacilli to produce death! It is difficult to take Professor McIntosh seriously in view of these figures. In the next place, it should be noted that the animals died within twenty-four hours or recovered. In view of the relatively enormous quantity of bacterial substance introduced, it might be that the death was due to either protein poisoning or to embolism.

Professor McIntosh next produced his evidence to prove that the bacillus of Pfeiffer elaborates a soluble toxin and that this toxin possesses the power of inducing the symptoms of the disease. The bacilli were cultivated in boiled blood and bouillon. The filtrate was used to determine the presence of the toxin. As a rule, five or six cubic centimetres of the filtrate sufficed to make rabbits weighing one and a half kilograms seriously ill. The average lethal dose for guinea-pigs, presumably weighing about four hundred grammes, was two to three cubic centimetres. In some death occurred almost immediately after the injection of much smaller amounts. Neither the symptoms observed during life nor the changes detected after death would satisfy a critical observer as evidence that Professor McIntosh was dealing with a bacterial exo-toxin. He recognized that the crucial test whether the filtrate contained a true toxin or merely some poisonous quality would be the reaction to repeated injections of the filtrate. In the first series of experiments a rabbit received seven cubic centimetres of the "toxin." No immediate symptoms were noted, but the animal was found dead on the following day. A mixture of seven cubic centimetres of the filtrate and one cubic centimetre of the serum of a prepared rabbit left another rabbit unaffected. Lastly, seven cubic centimetres of filtrate and one cubic centimetre of normal rabbit serum caused illness with recovery. It is doubtful whether any characteristic toxin effect was produced in any of the three rabbits. A second series is even less convincing. In the third series guinea-pigs treated with filtrate and saline solution or normal rabbit serum were found dead on the following day, while those treated with filtrate and so-called immune serum remained well. The immune serum did not protect any of the animals against multiple lethal doses. The data given in his studies are insufficient to justify the conclusion that the filtrate has the power to produce anything analogous to an antitoxin.

Professor McIntosh criticizes the work of those bacteriologists who claimed that they had demonstrated a filter-passing organism from the secretions of persons suffering from influenza. It would appear to us that this criticism is justified. The evidence adduced is as unsatisfactory as that put forward by Professor McIntosh in favour of his views on the pathogenicity of Pfeiffer's bacillus. If he is correct in his assumption that this germ is the causal organism of influenza, it would be necessary to find some explanation for the failure of several competent bacteriologists to produce the disease in healthy men by introducing pure cultures into the nasal or faucial cavities. The frequency of the bacilli in the throats of healthy persons or of persons suffering from morbilli and other infective processes in the absence of an influenza epidemic would also require explanation. It is asserted that the serum of persons convalescing from influenza has a high therapeutic value in the disease. Professor McIntosh endeavours to provide proof that this is due to specific antibodies of Pfeiffer's bacillus. The immunity reactions are so feeble that no critical observer would accept this evidence. It appears from a careful perusal of the forty-two pages of his report that Professor McIntosh has failed signally to establish his contention that Pfeiffer's bacillus is the causal organism of epidemic influenza.

Abstracts from Current Medical Literature.

MEDICINE.

Adiposis Dolorosa.

JAMES M. NEFF (*Illinois Medical Journal*, September, 1921) has reviewed the literature which deals with the condition known as *adiposis dolorosa*. Originally described by F. X. Dercum, of Philadelphia, thirty years ago, the disease is a comparatively rare one. Up to 1918 about one hundred cases had been recorded. The cardinal features of the condition are the presence of fatty deposits under the skin, the sensitiveness of these deposits to pressure, the complaint by the patient of pain in the fatty masses, general asthenia and muscular weakness and psychic or neurotic phenomena. The deposits are sometimes nodular, but usually diffuse. The parts of the body affected are, in order of frequency, the trunk, shoulders, arms and thighs. The forearms and legs are less often involved and the face and hands but rarely. Usually the sufferers are far above normal weight. Pain and tenderness on manipulation are constant symptoms, but spontaneous pain is rare. In typical cases the pain and sensitiveness are intense. The asthenia varies from slight fatigue to extreme prostration and is often associated with dyspnœa on exertion. It is said to be due to a perversion of function of some of the ductless glands, the thyreoid and pituitary being usually blamed. Psychic phenomena are usually present and include depression, impairment of memory, melancholia, hysteria, irritability of temper and mental confusion. The incidence of these varied psychic symptoms is not surprising when it is remembered that the disease is most common in women at the menopause. Besides the cardinal features, other symptoms have been noted. These include paræsthesia; areas of diminished sensation and anæsthesia; certain vaso-motor phenomena, such as anidrosis, flushing of the skin, cyanosis of the extremities, spontaneous hæmorrhages and a curious tendency of the flesh to bruising; trophic changes, *e.g.*, loss of hair, cavities, suggilations and scleroderma; myxœdematous manifestations; secondary anæmia and multiple arthropathies. The ætiology of *adiposis dolorosa* is obscure, but the disease is almost certainly associated with disturbances of the ductless glands. It occurs in women six times more frequently than in men and is most common at or just after the menopause. Dercum is of the opinion that the disease is primarily due to a disturbance of the thyreoid and pituitary secretions. The majority of observers have reported enlargement of the thyreoid gland, though atrophy has also been noted. Theoretical considerations suggest involvement of the hypophysis in the disease and during eight autopsies G. E. Price found the gland affected in five instances, the conditions being respectively glioma, adenocarcinoma, alveolar carcinoma and inflammatory changes suggestive of alveolar or glandular carcinoma. Examination of the fat deposits shows that the fat may be normal or myxœdematous. Œdema in the fat deposits is very common. In one case Dercum reported three stages of development, namely, an initial œdematous swelling, a lipomatous change and a terminal sclerosis. The peripheral nerves running through the tumour mass frequently show an extensive interstitial inflammation. Atrophy of the ovaries or testes has been described in many instances. The disease is chronic and progressive, but exacerbations and remissions are very common. The prognosis is bad, but death usually occurs from an intercurrent disease. Treatment is unsatisfactory, but removal of the fat deposits or lipomata gives complete, if not permanent, relief from the pain and tenderness.

Pulmonary Hæmorrhage.

H. SCHWATT (*New York Medical Journal*, December 7, 1921) attacks the prevalent attitude of physicians towards pulmonary hæmorrhage. This attitude, he states, is one calculated to intensify the patient's fear of impending doom. There is no basis for the assumption that the moderate body movements of everyday life have any influence in so raising the pulmonary blood pressure as to promote hæmorrhage. The systemic and pulmonary circulations are relatively independent. Hence complete immobilization of the patient suffering from hæmoptysis does not lessen the bleeding nor prevent its recurrence. On the contrary, the insistence that the patient must lie flat on his back without a pillow, that he must not turn his head or lift a finger nor speak except in a mono-syllabic whisper, that he must be starved or have food doled out in homœopathic doses, lest the efforts of mastication or swallowing increase or renew the bleeding, that even in the depth of winter he must have ice to suck and an ice-pack placed upon his chest, depress, terrify and weaken even the hardiest patient. The semi-recumbent or even sitting position is not only less distressing to the patient mentally and physically; it relieves the cough and facilitates the ejection of the blood with the least amount of expulsive effort. After the active bleeding has stopped, the patient may be permitted more and more freedom and after a few days allowed out of bed. In some cases of long-continued blood-spitting, it is surprising how promptly it disappears when the patient abandons the recumbent posture. The great majority of hæmorrhages are self-limited through the tendency of the body to effect a spontaneous control by changes in blood pressure, by increase in the coagulability of the blood, by contraction of vessels and by thrombus formation. The undisturbed forces of Nature are more effective and less harmful in controlling the bleeding than any drug therapy. Morphine prevents the patient from relieving himself of the accumulating blood and pulmonary secretions. Codeine, "Heroin" and "Dionin" are equally as effective and allow free and easy expectoration. There is no drug or other treatment except artificial pneumo-thorax, which can be said to control hæmoptysis. The duty of the physician is to cheer the patient, to allay mental excitement, to lessen excessive cough, to place the patient in a comfortable position at reasonable bodily rest and to avoid meddlesome therapy.

Peripheral and Radicular Types of Epidemic Encephalitis.

FOSTER KENNEDY (*American Journal of the Medical Sciences*, January, 1922) discusses the peripheral and radicular types of epidemic encephalitis. The author lays stress on the fact that the various clinical "types" described in this disease do not represent separate diseases, but are merely varieties of the one infective disease in which the gravamen of infection has fallen with special incidence upon a particular portion of the nervous system. It is, however, maintained that variety of clinical form might be produced by variety of virus or by a constant infective agent appearing in different evolutionary phases. Whatever may be the bacteriological explanation, it is certain that the peripheral nerves and spinal roots may be affected in acute encephalitis to a considerable degree. In a certain proportion of recorded examples the distribution and character of the painful symptoms have compelled the observer to conclude that the lesion has been essentially an involvement of the nerve roots and peripheral nerves. Sensory changes similar to those commonly observed in *tabes dorsalis* have been noted; in a smaller number of patients localized atrophies of muscles have occurred such as would result from involvement of contiguous anterior roots. Palsies of single cranial nerves have not been uncommon, the third and seventh nerves having been particularly affected. In most instances in which the seventh nerve has been involved, there has been no demonstrable lesion of the fifth, eighth or sixth nerves, thus excluding the possibility of a lesion in the ponto-cerebellar angle or in the nucleus of the facial nerve in the *pons*. Occasionally single peripheral nerve trunks have been picked out in similar fashion. The prognosis in peripheral and radicular varieties of this infection is usually good. In patients dying from wide-spread involvement of the central nervous system, peri-vascular round-celled infiltration and occasional hæmorrhages have been observed in the posterior root ganglia. The author points out that the cases described in this report are essentially similar to the morbid condition previously recorded as "acute infective neuronitis" and that a minor epidemic presenting an analagous clinical picture occurred amongst soldiers in the field during the recent war.

NEUROLOGY.

Viscero-Motor and Other Reflexes.

D. DANIÉLOPU, A. RADOVICI AND A. CARNIOL (*Revue Neurologique*, March, 1922) record their study of the reflexes in a patient suffering from paraplegia due to transverse myelitis at about the ninth thoracic segment. The patient had an "automatic bladder" and, as is common in such instances, rubbing the skin of the hypogastrium induced micturition. A more interesting fact was that micturition was followed by involuntary automatic movements of the lower limbs. This observation led to the following experiment: Upon a sound a rubber bag was let into the bladder and connexions were so arranged that the bladder could be artificially distended and its movements recorded on an ordinary tambour. With a similar apparatus movements of the colon could be observed. (*i.*) Simple distension of the bladder induced vigorous contraction. (*ii.*) Pricking or pinching the skin of any part below the level of the lesion also induced vesical contraction, whereas skin stimulation above the lesion produced no response. This was regarded as a true cutaneo-vesical reflex, whose course was to the spinal cord by way of posterior roots, thence to the bladder centre in the sacral segments and on by parasympathetic fibres to the bladder. (*iii.*) Filling the bladder induced defence movements of the lower limbs and a sharp contraction of abdominal muscles (viscero-motor reflex of the bladder). (*iv.*) Distension of the colon induced movements of the limbs (viscero-motor reflex of the colon). (*v.*) Pressure upon the eyeball, even if slight, was constantly followed by a desire to urinate (oculo-vesical reflex). (*vi.*) Pressure upon the eyeball also induced contractions of the colon (oculo-colic reflex) and contraction of voluntary muscles (oculo-viscero-motor reflex). The first section in the pathway for these ocular reflexes was in the pneumogastric nerve.

The Plantar Response.

G. DE M. RUDOLF (*The Journal of Neurology and Psychopathology*, February, 1922), in a paper on the phylogenetic significance of the plantar or Babinski's reflex in man, points out that a flexor plantar response of a primitive character occurs in the lower animals, in the majority of very young human infants (the infantile flexor response) and in certain cases of total transection of the adult human cord. The primitive flexor response changes to an extensor response as development proceeds, either as the animal scale is ascended or as the child grows older, or as the spinal cord readapts itself to its altered conditions after transection. The extensor plantar response changes to a flexor plantar response in animals higher than the anthropoid apes, *i.e.*, in man. Thus there is a succession of flexor, extensor and flexor responses, both in the phylogeny of the race and in the ontogeny of the individual. In the case of the total transection of the cord in man, the final adult flexor response is not obtained. The belief that the alteration of the plantar response from extensor to flexor is due to the myelination of the pyramidal tracts is apparently incorrect; more probably it is due to the myelination of the peripheral nerves, which occurs at the eighth month of life. The hypothesis that the extensor plantar response of infants and of "spinal" man is an atavistic phenomenon dependent upon the prehensile toe of his arboreal ancestors is not shown by these investigations to be incorrect. The normal adult flexor plantar response is due to the control of the brain over the lower centres of the cord and this control is exercised only by the brain in its most highly developed form, *i.e.*, the brain of man.

Treatment of Nervous Diseases by Intrathecal Injection.

C. WORSTER-DROUGHT (*The Medical Press and Circular*, June 14, 1922), after describing the method of intrathecal injection which he favours, mentions the pathological conditions in which such treatment is indicated. Cerebro-spinal fever (meningococcal meningitis) is the form of meningitis in which intrathecal medication has given the most brilliant results. A polyvalent anti-meningococcal serum is used. The initial dose is thirty cubic centimetres and this dose should be continued for at least ten days. Pneumococcal and streptococcal meningitis lend themselves to similar treatment. In tuberculous meningitis the daily use of one to three milligrammes of old tuberculin (T.A.) suspended in fluid withdrawn by lumbar puncture may be tried. Influenzal meningitis has not improved under intrathecal injections of Flexner's serum. In tetanus intrathecal injections of antitoxin (eight thousand units, U.S.A.) may usefully supplement the usual intravenous injections. Magnesium sulphate (three to five cubic centimetres of a 25% solution) may also be used. The treatment of *tabes dorsalis*, general paralysis and syphilitic meningitis by salvarsanized or mercurialized serum administered intrathecally and even intraventricularly (Ballance) is referred to. Polio-myelitis, *encephalitis lethargica* and Sydenham's chorea receive mention as conditions in which intrathecal injections have been tried with doubtful results.

Treatment of General Paresis by Inoculation of Malaria.

WAGNER-JAUREGG (*Journal of Nervous and Mental Diseases*, May, 1922) refers to cases of general paresis which are reported as having been cured by a protracted suppuration or after a febrile illness. He also mentions that for many years he has treated general paresis with favourable results by injections of tuberculin. Turning from this, he began to use inoculations of tertian malaria and in this way has treated more than two hundred patients. The first inoculation was made from a patient with malaria, previously untreated with quinine. Subsequent inoculations were made from malarial to other paretic patients. In few instances only was there immunity to malaria. As a rule the patients were allowed to pass through eight or nine attacks of fever before checking with quinine. Complete remission occurred in more than fifty of the patients selected for treatment. It is a most important condition that the disease should be attacked in an early stage. Honorio F. Belgado, of Lima, Peru, writing on the same subject in the same number of this journal, reports a short series of cases with satisfactory results.

The Intraspinal Treatment of Neuro-Syphilis.

GONZALO R. LAFORA (*Revue Neurologique*, May, 1922) thinks that the intraspinal method of treating neuro-syphilis is only indicated when there is active meningo-vascular or radicular inflammation and not when the condition is chronic and accompanied by sclerotic and parenchymatous changes. Different forms of lesion call for modifications in the frequency and dose of injection. Even one form of lesion (for example, *tabes dorsalis*) may demand modification of treatment according to clinical condition, age of patient, manner of reaction to initial doses and the showings of spinal fluid examination. Definite cure of neuro-syphilis in the tertiary stage, being less certain than hitherto thought, usually requires a combination of intraspinal with intramuscular and intravenous injections. Short courses of small doses are wholly inadequate. They merely reactivate the condition. The treatment of para-syphilis should be continued over years, even to the end of life. Bad results can generally be ascribed to the use of excessive doses too frequently given or to injudicious selection of patients for treatment.

Hemiplegia: Its Causes and Treatment.

F. C. PURSER (*The Medical Press and Circular*, June 14, 1922) opens his paper by indicating the treatment in hemiplegia due to its most common cause, cerebral hæmorrhage. Here the rules are: Postpone active treatment for a week, because any disturbance of the patient may promote further bleeding. Take precautions to lower blood pressure or prevent an increase thereof. Begin local treatment by preventing the limb from lying in any one attitude for long; then in spite of pain perform extensive and frequent passive movements at all joints. Avoid massage and electricity at this stage, because they increase the tendency to contracture. Once there is perceptible return of power, urge voluntary exercise. Keep up treatment for from six to twelve months. In cases of hemiplegia due to embolism or thrombosis, encephalitis, whooping cough and syphilis, treatment will be required according to the cause. The same applies to hemiplegia from pressure on the cortex in the Rolandic region. With hysterical patients treatment is aimed more at the patient than the form the ailment takes.

British Medical Association News.

SCIENTIFIC.

A MEETING of the Queensland Branch of the British Medical Association was held at the B.M.A. Building, Adelaide Street, Brisbane, on August 4, 1922, the President, DR. G. P. DIXON, C.B.E., in the chair.

Gastric Ulcer.

DR. E. S. MEYERS showed a skiagram and a specimen of gastric ulcer. The patient, a male, aged sixty years, had had symptoms of gastric perforation. The skiagram showed a duodenal ulcer, but at the operation the ulcer was found on the lesser curvature of the stomach near the pyloris and was excised.

The Potter-Bucky Diaphragm.

DR. VAL. MCDOWALL read a paper entitled "Twelve Months' Experience with the Potter-Bucky Diaphragm" (see page 350).

DR. EUSTACE RUSSELL congratulated Dr. McDowall on his results. Radiography was only an adjunct to the ordinary diagnostic methods of accurate case taking and examination of the patients. Team work was very necessary in interpreting X-ray plates. The early stages of pulmonary tuberculosis could be diagnosed with certainty according to some workers, while others said it is impossible. X-rays frequently missed the earliest stages when two or three tubercles associated with catarrh were present; this stage was also very often missed in clinical examination. A skiagram could not indicate if an active, dry pleurisy existed. When a focus had been diagnosed it was difficult to tell if it were active or healed; even a combination of X-ray examination and clinical examination did not give a clue. Regarding the heart in the presence of much enlargement and of pericarditis, especially with effusion, fluid could be detected by means of X-rays long before the ordinary clinical examination revealed the lesions. Thoracic aneurysm in the early stages could be diagnosed only by X-rays. A skiagram was very useful in the differential diagnosis of pneumo-thorax from pleurisy with effusion or empyema. The diagnosis of neoplasms of the lung and mediastinum had been made much simpler. A proper radiological examination of all cases of chronic digestive trouble was becoming more common. Diagnosis has been made much easier and there was less likelihood of error. He considered that the radiologist was a very powerful ally of the physician, particularly in chest and stomach conditions.

DR. G. P. DIXON considered that X-ray examination was an absolute essential routine for fractures and foreign bodies. Not only was it essential for the diagnosis of fractures, but also for the purpose of following up the treatment. This was seen particularly with fractures of the carpus and tarsus. It was also useful in bone and joint tuberculosis and obscure diseases, such as Paget's. Formerly renal shadows were very doubtful, but now stones were usually detected. Mistakes still occurred, but the radiologist was not always to blame. A close cooperation with the surgeon was essential and the cystoscope and ureteral catheter should be called to aid. The greatest difficulty still existed with the alimentary tract, especially in the presence of gastric ulcer and carcinoma. He confirmed Dr. McDowall's opinion that if the outline were visible, the gall bladder was pathological.

DR. WILTON LOVE asked would the effect of over-exposure be that the lines of the grid would show on the plate? He referred to the fact that if anything went wrong with a fracture and no skiagram had been taken, it was a strong point in law against the surgeon. For their own protection all fractures should be examined by X-rays. Plates should be taken in two planes for alignment. Regarding chest cases, long experience of operations and *post mortem* examinations was required before a good opinion could be given. Team work in these cases was absolutely essential. They should remember that they were dealing with shadows on different planes. It was difficult to group a couple of shadows and assert that early tuberculosis was present. In the alimentary tracts there was the same superposition of shadows and error was very likely. The diagnosis of gastric ulcer had been greatly improved by the Americans, who now claimed 86% of successes proved by operation. He would like to ask Dr. McDowall if he had had any personal experience of screening with the diaphragm.

DR. GRAHAM BUTLER, D.S.O., stated that he had had a very difficult time with the diagnosis of military chest cases. Unlike the private patients, there was a tendency of the soldier to make the most of his symptoms. He had found X-rays to be more and more useful in this work. A large proportion of the patients at Rosemount had other pulmonary conditions associated with tuberculosis. The tuberculosis spread from the hilus towards the periphery and there was no doubt that X-rays revealed physical signs before other methods of examination in many of these patients. The clinician should diagnose apical tuberculosis before the radiologist. He was not satisfied that sufficient cooperation obtained yet in chest cases. He had not had a chance of coordinating the clinical and X-ray diagnosis of fibrosis with *post mortem* appearances. Regarding renal examinations, both kidneys should be photographed at the same time.

DR. A. T. NISBET would not do without the diaphragm, even for the simplest thing, such as hands. He referred to the great value of the report of the Broken Hill Commission, both to the radiologist and the clinician in chest conditions. It was very difficult to obtain permission to carry out *post mortem* examinations at the Rosemount Military Hospital. Only three had been done in eighteen months. Plates should be left with the radiologist and not handed over to the surgeon or patient. A record was then at hand if the patient returned and any changes could be noted more accurately. In any case, the plate was legally the property of the radiologist. He wondered why moving the stereoscopic grid one way gave good detail, while in another direction there was a definite diminution of the shadow. Regarding renal calculi, even uric acid stones could be seen with the diaphragm. It was very difficult to diagnose gastric ulcer. If the condition were present it would show definitely on the plate, but if there were no definite markings it would be better to say that it was not present.

DR. W. N. ROBERTSON, C.B.E., referred to the great help of radiography in accessory sinus work, especially the sphenoid, ethmoid and mastoid cells. In cases of chronic mastoiditis, the cells showed out clearly and by taking a skiagram, the surgeon could avoid having to chisel away all the cells. A similar advantage occurred with the frontal sinus, though he did not always agree with the radiographic findings in this condition.

DR. D. A. CAMERON stated that the clinician should always see the plate with the radiologist and referred to two cases of bronchiectasis and ureteral calculus. No patient with calculus should be operated upon unless a second plate had been taken after an interval of several days. With the aid of bismuth meals the surgeon should see the patient screened or, if this were not possible, he should discuss the plate with the radiologist.

In thanking members for the reception of his paper, DR. V. MCDOWALL stated that over-exposure would not show the lines of the grid on the plate. The presence of lines meant that either the tube was not centred over the patient or that the grid was not working at the right speed.

Regarding the differences of detail with the stereoscopic grid, this might be due to the grid not being moved in a parallel direction or to the tube not being centred accurately over the patient.

He was very dubious about many chest plates; unless the condition was definitely tuberculous, he hedged carefully in his report.

MEDICO-POLITICAL.

AMENDED ARTICLES AND BY-LAWS.

THE following are the Articles and By-Laws affecting the overseas Branches of the British Medical Association as adopted by the Annual Representative Meeting held in

Glasgow on July 21, 1922. The deleted words in the old Articles and By-Laws are printed and cancelled, while the additions are given in **Gothic (black)** type.

ARTICLES.

Interpretation.

1. In these Articles of Association (where not repugnant to the context) the words and expressions following have the meanings hereinafter assigned to them respectively:

"The Association" means the above-named Association.
"The Regulations" means the Regulations contained in these Articles of Association, with such modifications thereof or additions thereto as may from time to time be in force.
"The By-Laws" means the By-Laws set forth in the Schedule hereto or other the By-Laws of the Association for the time being in force.
"The Council" means the Council hereinafter mentioned.
"The Journal" means the journal to be published as hereinafter provided.
"Division" and "Branch" mean, respectively, a Division and Branch constituted as hereinafter provided.
"Branch Council" or "Council of a Branch" when used in relation to a Corporate Branch (as hereinafter defined) means the Governing Body of that Branch by whatever name the same may be called.
"Existing" means existing at the time when these Regulations come into operation.

Expressions defined in the *Companies (Consolidation) Act, 1908*, shall have the meanings so defined.

Eligibility.

3. Any medical practitioner registered in the United Kingdom under the *Medical Acts* and any medical practitioner who does not reside within the area of any Branch of the Association and who, though not so registered, is possessed of any ~~of the qualifications described in Schedule (A) of the *Medical Act, 1858*, and any medical practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom~~ **qualification entitling him to be so registered and any medical practitioner residing within the area of any Branch of the Association not in the United Kingdom** who is so registered or possesses such medical qualification as shall, subject to the By-Laws, be prescribed by the Rules of the said Branch, shall be eligible as an ordinary member of the Association. Subject as aforesaid the mode and conditions of election to membership shall from time to time be determined by or in accordance with the By-Laws

Re-eligibility.

7. No person who shall have been a member of the Association and ceased to be such shall be eligible for re-election until he shall have paid all arrears of subscription (if any) due from him to the Association at the date when his former membership ceased and no person whose former membership shall have been terminated by reason of his conviction or expulsion as hereinafter provided shall, without the previous sanction of the Council, be eligible for re-election by any Branch Council.

~~*Formation.*~~

11. (1) The members of the Association shall be formed into separate local bodies styled Divisions and Branches.

(2) Each Division shall have a local area to be determined as hereinafter provided and a Branch shall be a Division or a group of Divisions.

(3) Provided that no body of members shall be finally recognized as a Division or Branch until they shall have adopted Rules of Organization and the current Rules governing procedure in ethical matters and such Rules shall have been approved by the Council.

Branches Not in the United Kingdom.

Incorporation.

11a. (1) Subject as hereinafter provided, it shall be competent for the members of a Branch not in the United Kingdom to procure themselves to be incorporated (in accordance with the law in force in the area of the Branch) under a name indicating that the body so incorporated is a Branch of the Association. A Branch so incorporated is hereinafter referred to as a Corporate Branch.

(2) The objects, powers and obligations of a Corporate Branch, as defined by its Memorandum of Association, shall coincide with the objects, powers and obligations of the Association as similarly defined, with such variations only as the Association shall approve.

(3) The membership of a Corporate Branch (save as otherwise provided by paragraph (2) of Article 4 hereof) shall be strictly confined by its Articles of Association to Members of the Association and it shall be thereby provided that any member of the Corporate Branch shall, upon ceasing to be a member of the Association, ipso facto and immediately cease to be a member of such Branch.

(4) The Corporate Branch shall not be deemed to be an agent for and shall have no power to impose any responsibility or liability on, or to pledge the credit of the Association in respect of any acts, expenses, matters or things done or incurred by the Corporate Branch and the Articles of Association of such Branch shall contain a provision to that effect in such form as may be approved by the Association.

(5) The drafts of the Memorandum and Articles of Association of the Corporate Branch shall, before the incorporation thereof, be submitted to the Association for approval and such incorporation shall not be effected except under a Memorandum and Articles of Association which have been so approved.

(6) The Corporate Branch shall immediately upon the incorporation thereof enter into an Agreement with the Association to the effect mentioned in the By-Laws.

(7) The Corporate Branch shall, before effecting any alteration in its Memorandum or Articles of Association submit the same to the Association for approval and shall not effect the same unless such approval shall have been obtained and shall also transmit to the Association at the Head Office once in every year true and complete copies of its Memorandum and Articles of Association for the time being in force.

(8) In this Article the expression "Memorandum of Association" shall include any Charter or other instrument of foundation of the Corporate Branch and the expression "Articles of Association" shall include any similar regulations for the government of such Branch.

Formation, Alteration, Dissolution, etc., of Branches and Divisions.

12. ~~(1) Each Division shall have a local area to be determined as hereinafter provided and a Branch shall be a Division or a group of Divisions.~~

~~(2)~~ Subject in the case of Divisions and Branches not in the United Kingdom to the provisions of the By-Laws, it shall rest with the Council from time to time to determine, recognize and declare by resolution published in the *Journal*, what bodies of members shall be Divisions and what Divisions and groups of Divisions shall be Branches of the Association and what shall be the local area of each Division, and accordingly the Council shall have full power from time to time to amalgamate, subdivide and modify Divisions and Branches and the local areas thereof. Nevertheless, not less than one ~~calendar~~ month's notice in all cases shall be given (in the manner prescribed by the By-Laws) to any Division or Branch in whose boundaries or area any change is proposed and **in the case of a Corporate Branch no alteration in the boundaries or area thereof or of any Division thereof shall be made without the consent of that Branch.**

13a. It shall be competent for the Association by resolution of the Council and by giving not less than six months' notice in writing to the Branch concerned, to dissolve any unincorporate Branch and to exclude any Corporate Branch from continuing to be a Branch of the Association.

Federal Councils.

13b. Federal Councils representative of the Branches in any area outside the United Kingdom defined and approved by the Council may be formed in the manner and for the purposes specified in the By-Laws.

Grants.

15. The By-Laws may provide for contributions, grants and subscriptions out of the general funds of the Asso-

ciation to Divisions or Branches and may impose on the members of any Division or Branch such obligations towards the Association and the Division and Branch respectively as may seem expedient, but so that in the case of members of a Corporate Branch such obligations shall not conflict with any obligations imposed by such Branch.

BY-LAWS.

Subscription: To Whom Paid.

12. (1) Save as hereinafter provided, subscriptions shall be paid by all members to the Treasurer or to such persons (if any) as the Treasurer may authorize to receive subscriptions on his behalf (of which authorization notice shall be given to all members concerned).

(2) Provided that the subscription to the Association of a member of a Corporate Branch shall be paid to that Branch (whose receipt shall be a sufficient discharge to such member) and shall be remitted by that Branch to the Treasurer.

Subscriptions to Branches Not in the United Kingdom.

15. (1) It shall also be competent for any (a) for any Corporate Branch to fix and from time to time alter the amounts of the subscriptions to be paid by its members and (b) for any other Branch not in the United Kingdom, by Rule (approved as hereinafter mentioned), to require each member of such Branch to pay (in addition to his subscription to the Association and to any such special subscription) an annual subscription of such amount as may be deemed by such Branch to be necessary for defraying expenses occasioned by the special circumstances of such Branch and not capable of being defrayed out of any grant from the funds of the Association made in pursuance of the By-Laws.

(2) No such Rule shall have effect unless and until it shall have been approved by the Branch ~~in accordance with the following provisions~~.

~~(3) Approval by the Branch may be given~~ by a majority of not less than three-fourths of the members present and voting at a general meeting of the Branch specially convened to consider the proposed Rule, of which meeting not less than twenty-one days' notice shall have been given to all the members of the Branch.

Incorporation of Branches Not in the United Kingdom.

15a. It shall rest with the Council to consider, amend, approve or disapprove the drafts of any Memorandum and Articles of Association (as defined by Article 11a of the Regulations) submitted by any Branch which desires to become incorporated and also any proposals for the alteration of the Memorandum and Articles of Association of a Corporate Branch.

15b. Every Corporate Branch shall immediately upon its incorporation enter into an Agreement with the Association (in such form as the Council may approve) concerning the permissive user of the words "Branch of the British Medical Association" as part of the corporate name of such Branch and the cesser of such user upon the request of the Association and concerning the exoneration of the Association from liability in respect of the acts and defaults of such Branch and the submission for approval by the Association of any proposed alterations in the Regulations of such Branch and generally concerning the relations between such Branch and the Association.

Local Management: Branches.

16. (1) The management of the affairs of each Branch (other than a Corporate Branch) shall, save as otherwise provided in the By-Laws be vested in a Branch Council, composed of the following persons (being members of the Association):

(*a*) In the case of a Branch in the United Kingdom, those of the twenty-four members (hereinafter mentioned) of the Council who are elected (as hereinafter provided) by the Branch or by any group of Branches to which the Branch belongs and those of the twelve members (hereinafter mentioned) of the Council who are elected (as hereinafter provided) wholly or in part by representatives of constituencies in the Branch.

(*b*) Those members of the Representative Body who are elected (as hereinafter provided) to represent the Divisions comprised in the Branch.

(*c*) Such officers of the Branch at the Branch shall by its Rules declare to be members *ex officio* of the Branch Council.

(*d*) The Honorary Secretaries of all the Divisions comprised in the Branch (one for each such Division).

(*e*) Such medical members (if any) of any local Council or Committee formed under any Act of Parliament and such representatives (if any) of any local Medical Society as the Branch may appoint or the Branch Council may co-opt to be members of the Branch Council.

(*f*) Such other members of the Association as the Branch may by its Rules decide.[1]

(2) The management of the affairs of a Corporate Branch and the composition of the Council or other governing body thereof shall be determined by the Regulations of such Branch.

Federal Councils.

18a. (1) The Branches in any defined area outside the United Kingdom which shall be approved by the Council for the purpose, may form a Federal Council consisting of members of the Association representing each of the Branches concerned for the purpose of carrying out the objects of the Association on behalf of those Branches collectively within the area so defined and approved. Subject as hereinafter provided, any such Federal Council may be corporate or unincorporate.

(2) Any proposal for the formation of any such Federal Council, specifying the area in which the same is intended to act and its constitution, powers and duties, shall be submitted by the Branches concerned to the Council and no such proposal shall become operative unless and until the same shall have been approved by the Council.

(3) This By-Law shall apply to a Corporate Branch subject and without prejudice to anything contained in the Memorandum and Articles of Association or other the instrument of foundation or Regulations of such Branch.

Local Management: Divisions.

19. The management of the affairs of each Division shall, save as otherwise provided in the By-Laws and subject in the case of a Division forming part of a Corporate Branch to any directions or Regulations given or made by that Branch, be vested in an Executive Committee composed of the following persons (being members of the Association):[1]

(*a*) The member or members representing the Division on the Representative Body.

(*b*) The member or members representing the Division on the Branch Council.

(*c*) Such officers of the Division as the Division shall by its Rules declare to be members *ex officio* of the Executive Committee.

(*d*) Such medical members (if any) of any local Council or Committee formed under any Act of Parliament and such representatives (if any) of any local Medical Society as the Division may appoint or the Executive Committee may co-opt to be members of the Executive Committee.

(*e*) Such other members of the Association as the Division may by its Rules decide.

Relations Between Divisions and Branches.

20. The Executive Committee of every Division shall, as soon as may be, notify to the ~~Council of the~~ Branch comprising that Division each decision of the Division or the Executive Committee relating to or affecting the organization or policy of the Branch or of any Division comprised in the Branch.

Divisions Not in the United Kingdom: Special Powers.

22. A Division not in the United Kingdom shall (subject in the case of a Division forming part of a Corporate Branch to any directions or regulations given or made by that Branch) be competent from time to time to adopt, by

[1] These By-Laws have been amended in the form given for purposes other than those affecting the overseas Branches.

the vote of a general meeting of the Division and without the approval of the Council, Rules dealing with all or any of the following matters, which Rules shall be binding upon the members of the Division to which they relate:

(*i.*) The number, duties and designation of office bearers of the Division, provided that the Division shall at all times have an Honorary Secretary, who shall be the official medium of communication with the Association and with other Divisions and Branches.

(*ii.*) The holding of meetings of the Division and the business to be considered thereat, but so as not to conflict with the By-Laws as to the holding of meetings of constituencies for the election and, if necessary, for the instruction of representatives and for considering the agenda of Representative Meetings.

(*iii.*) The voting by proxy at any such meeting and at any meeting of the Executive Committee of the Division.

(*iv.*) Any other matter as to which the Council may, from time to time, authorize the Divisions not in the United Kingdom to make Rules without the approval of the Council.

Validity of Proceedings.

78. The proceedings of the Representative Body or of the Council or ~~of any Branch Council~~ **the Council of any Branch (other than a Corporate Branch) or of any** Committee or other body acting under the Regulations or the By-Laws, shall not be invalidated by any accidental omission to give any notice thereby required or by any vacancy among their members or by any defect in the election or qualification of any of their members.

SALARIES OF MEDICAL OFFICERS OF HEALTH IN VICTORIA.

THE following letter has been received by the Council of the Victorian Branch of the British Medical Association from the Department of Public Health of Victoria. Its contents should be of interest to practitioners holding or seeking to hold positions as medical officers of health in the State.

"Melbourne, September 6, 1922.

"Dear Sir: With reference to your letter of 18th ult., relative to salaries paid to medical officers of health, I am directed by resolution of the Commission of Public Health to inform you that the Commission can do no more than it has done in the matter, as the question of securing proper remuneration is entirely in the hands of the medical officers themselves to make arrangements with the councils. If medical officers will persist in making agreements with municipal councils at a low remuneration, the fault lies with themselves.

"Yours faithfully,

(Sgd.) "T. DIMELOW,
"Secretary."

NOTICES.

THE COUNCIL OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION has arranged the following provisional programme of the Branch meetings. The Scientific Committee reserves to itself the right to modify the arrangements, but it is hoped that no changes will be necessary.

October 4, 1922.

At the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne Hospital, at 8.15 p.m.

DR. H. DOUGLAS STEPHENS: "Clinical Symptoms of Enlargement of the Spleen in Children."

DR. S. O. COWEN: "Familial Splenomegaly."

DR. K. HILLER will open the discussion.

November 1, 1922.

CLINICAL MEETING at the Children's Hospital, Carlton, at 8.15 p.m..

Medical Societies.

MELBOURNE PÆDIATRIC SOCIETY.

(AFFILIATED WITH THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.)

A MEETING of the Melbourne Pædiatric Society was held at the Children's Hospital, Melbourne, on July 12, 1922, DR. R. L. FORSYTH, the President, in the chair.

After several patients suffering from various interesting conditions had been exhibited and a brief discussion had taken place DR. ALAN B. MCCUTCHEON contributed a paper on "Delayed Testis" (see page 353).

MR. R. HAMILTON RUSSELL, in opening the discussion, said that he had followed Dr. McCutcheon's account of his important research with very great interest. He was not aware of any similar investigation based on such a large number of observations. It was impossible to apprehend the full significance of the facts and figures placed before them without careful scrutiny and analysis. He would therefore refrain from criticism and proposed to contribute some remarks bearing on the subject and based on his clinical experience.

He had for many years recognized the tendency of so-called "undescended testicle" to come down and had not operated on delayed testes when unaccompanied by hernia. At the same time, many patients with an undescended testicle required operation for an associated hernia.

Mr. Russell narrated an early experience of a condition of affairs which he had not encountered again since. The patient was a boy, aged seven, with the testis on one side retained in the groin; the organ was atrophic and small and, although the *vas deferens* was well developed, the vessels of the cord were fibrosed and obliterated. He had divided the fibrosed vessels and had anchored the testis to the bottom of the scrotum, with the result that when the boy reached adult life, the testis was of the dimensions of a half-sized organ.

In operating for hernia with which there was associated an undescended testicle, he had occasionally found that, although there was an ample *vas deferens* looping down into the scrotum and ascending to the testis in the groin, the vessels were short and did not take such a course, so that it was impossible to replace the testis in the scrotum without dividing the vessels. Reasoning from the procedure of the operation for varicocele, he had formerly in such circumstances divided the vessels and had brought the testicle down into the scrotum attached by the *vas* and its artery. Testes so treated were by later observations found to be only half developed, hard and functionless. He concluded that it was a mistake to divide the vessels and now did not attempt to pull the testis down into the scrotum at the expense of sacrificing the vessels. The most that should be attempted was to provide a clear path for the descent of the testicle into the scrotum. The organ had not a clear path if it were inside the external abdominal ring, but when once the testicle was liberated from the external ring, it could be trusted, as Dr. McCutcheon had assured them, to make the descent into the scrotum.

With reference to the incidence of hernia in association with delayed testis, Mr. Russell said that the figures furnished by Dr. McCutcheon were very similar to those he would have estimated from his clinical experience. It was a common acceptation that hernia occurred in only a small proportion of people with an open funicular process and it must not be assumed from Dr. McCutcheon's relatively small figures in this particular that the number of herniæ observed in the boys before and at the time of puberty represented all that were likely to appear in the series. Any of them might get hernia at any time of life. He recalled the case of a man in whom a hernia appeared on one side at the age of seventy, to be followed by an inguinal hernia on the other side four years later. Possibly the patient referred to had had delayed testes as a child and there was no doubt that he had had open funicular processes all his life.

In conclusion, Mr. Russell said that his remarks were

not advanced as a criticism or an adequate commentary on Dr. McCutcheon's valuable contribution.

In reply to a question by Dr. W. Dismore Upjohn, O.B.E., regarding the best means of dealing with undescended testicle associated with hernia in the adult, Mr. Russell advised that the testis should be placed in the scrotum if possible. He had not the same objection to dividing the vessels of the cord in the adult as he held to that procedure before adolescence.

MR. W. KENT HUGHES agreed with Mr. Russell that it was scarcely wise to draw conclusions regarding the incidence of hernia at the age at which Dr. McCutcheon examined the boys. It was not at all improbable that some of them would develope inguinal hernia in early adult life.

DR. F. KINGSLEY NORRIS spoke as having taken part in the earlier observations on the series of boys on which Dr. McCutcheon had based his paper.

The incidence of delayed testis, as shown by Dr. McCutcheon, was high, but, judging from the frequency with which late descent of the testis was seen in the course of clinical work among children, he would have anticipated that the figures would have been still higher.

Dr. Norris traced the development of the testis and made special reference to the part attributed to the *gubernaculum*, observing that the distal extremity of this structure might be attached elsewhere than in the scrotum. In practical work the *gubernaculum testis* seemed a very vague and shadowy structure and he would be interested to hear if any surgeon present had ever defined this muscle and its attachment.

It appeared that complete descent of the testicle was essential to proper development. Delayed descent was more commonly observed on the right side and in boys in whom the right testicle was for the time being undescended, the right side of the scrotum was small and atrophic as compared with the left in which was a normally placed organ.

Inguinal hernia in infants was of more frequent occurrence on the right than on the left side and it was natural to ask had this fact any relationship to the greater frequency of delayed descent of the right testis.

DR. H. DOUGLAS STEPHENS tendered his congratulations to Dr. McCutcheon on his very interesting paper.

In his own experience he had observed that in a large number of cases the undescended testicle varied in position almost from day to day and in a series of examinations might be found in the neighbourhood of the pubic spine or the internal abdominal ring respectively.

He recognized two indications for operative measures in undescended testicle, the first the presence of an associated hernia and the second the occurrence of pain. In the absence of these two features it was his practice to advise non-interference until after the age of puberty.

For some years past he had had the advantage of examining a large number of boys of the age of fourteen to sixteen and had been impressed with the relatively infrequent occurrence of undescended testicle at this age. When it was present at this period, the retained testis was almost invariably accompanied by an inguinal hernia.

With reference to liability to malignant disease as it affected the testicle when the organ was retained in the abdomen or inguinal canal, Dr. Stephens said that he could not recollect an instance in which such an event supervened, but he had known it to occur in a testicle normally placed in the scrotum. It did not appear from clinical experience that retention of the testicle was a serious predisposition to malignant change in the organ. He recollected one instance in which a microscopical examination of a testis removed from the inguinal canal showed that the organ had a good histological structure.

He had noted also that in boys in whom there was only one testicle in the scrotum, the other being retained in the abdomen, the scrotal organ was usually particularly well developed, as if there had been arrested development in the abdominal region and a compensating hypertrophy in that normally situated.

In operating for non-descent of the testicle it was his practice to fashion a *tunica vaginalis* and to secure the testis to the scrotum by means of a catgut suture. He did not aim at bringing the organ right down so much as to make tension upon it. Formerly he had divided all the vessels except the artery to the *vas* and anchored the testicle to the scrotum, but he had experienced the same ultimate imperfect development of the testicle when this procedure was adopted as had been laid as an objection to it by Mr. Hamilton Russell.

Concerning the *gubernaculum testis*, Dr. Stephens said that he had always found this structure extremely difficult to demonstrate at operation. For practical purposes the *gubernaculum* would appear to be almost a myth; in a child in whom one testicle was situated in the region of the anterior superior spine of the ilium, he had been unable to find anything which might have been construed as a *gubernaculum testis*.

DR. CECIL TUCKER, in considering the underlying cause of delay in descent of the testis, offered the suggestion of Leonard Williams that the progress of the descent of the testis into the scrotum was dependent upon a sufficiency of thyreoid secretion. If this were the case, the completion of the descent at puberty might be connected with the activation of the thyreoid gland at this period.

DR. MCCUTCHEON, in reply, said that his object in bringing his paper before the Society was to stimulate discussion. He had attempted to define the incidence of delayed testis and was grateful to Mr. Hamilton Russell for his clinical contribution to the discussion.

He had been interested to hear the experience of Dr. Stephens regarding the liability of delayed testis to undergo malignant change and it had occurred to him that references in test-books to such proneness to malignancy might have gained credence by frequent repetition, as in the case of the association of delayed testis with inguinal hernia.

His remarks relative to the occurrence of hernia applied only to adolescence and the earlier years and he quite recognized the likelihood of a certain number of hernlæ occurring in these boys in later life.

Special Correspondence.

LONDON LETTER.

BY OUR SPECIAL CORRESPONDENT.

Surgical Units.

I HAVE lately had an opportunity to examine the working of the surgical unit at one of the London teaching hospitals. The unit sytem, it will be remembered, was introduced two years ago. Its essential feature is an annual grant from the Board of Education to the medical school attached to a general hospital. The income is to be spent in the endowment of medical education and as a secondary factor research in a given branch of medical science. Five London hospitals have surgical units, medical units or both and the Royal Free Hospital has an obstetrical-gynæcological unit. The feature from which the unit system derives its name, is the placing of the administration and application of the grant in the hands of a director, who is helped by two or three assistants working directly under his supervision. These are assistants in a different way from the ordinary assistant honorary surgeon or physician, whose function is not to work under the direction of his principal, but rather to undertake certain sections of work with full power of exercise of individual discretion and to replace his principal when absent. In general the director of a unit receives £2,000 a year and when his assistants have been paid about £600 each the bulk of the Board of Education grant has been expended.

In the surgical unit to which I refer, the director has the status of a full member of the honorary staff and has a surgical out-patient department and one hundred beds, that is, rather more than the other surgeons of the hospital possess. As far as the teaching of students is concerned, the unit system does not appear to have brought with it any novel features. The student may receive more abundant instruction, but, as might be expected, it is given on the lines which have been proved to be successful in the past. A preliminary course of instruction lasting one month is arranged for students who have passed in anatomy and physiology, but have not begun their ward work. Out-patient, ward and pathological demonstrations

are attended in the ordinary way. A special feature is a "follow-through" department, in which the after-history of all surgical cases is made the subject of assiduous inquiry. It cannot be said that the adoption of the unit system has added very considerably to the student's opportunities for instruction. At most teaching hospitals the tradition and practice has been for the honorary staff to teach wherever or whenever possible; the unit provides yet another fount of instruction, one which may be a little more copious, a little more regular in issue, but need not be any more clear than other sources. In a hospital in which teaching had been inferior, it might, on the other hand, result that the student would derive (as a right) more efficient, valuable and systematized teaching from his unit. It is possible that time will prove that the unit system has its chief value in stimulating research by freeing those best fitted for it from the demands on their time made by the exercise of special professional practice in order to gain a livelihood. Coordination of medical and surgical teachers with regard to certain subjects on which both impinge, is likely to be fruitful and its importance is being borne in mind.

In the majority of instances the office of director of a unit is a whole-time one. In two instances, however, he is allowed to engage in private (of course, specialist) practice, a matter which has been the cause of considerable controversy. On the one hand, it is held that the recipient of a salary of £2,000 is in a sufficiently favourable situation to leave the field free for his rivals who hold no such "retainer." On the other hand, it is pointed out that this sum is not commensurate with the income which a surgeon who has earned practically nothing till verging on the age of forty may reasonably expect to gain in his years of maturity. The best men, it is said, will not be content with a whole-time appointment offering a fixed income no greater than the sum in question. It seems to me that, as times goes on, the directors of units will no doubt be appointed among the younger men; to gain a sure and substantial, if not handsome, income in the early or middle thirties will surely more than atone for the vanishing prospect of the princely income which a few attain later. Several more years must pass before it is possible to form a just estimate of the value of the unit system or to decide whether its executive officers should with greater advantage be full or part-time workers.

First Annual Dinner of Australian and New Zealand Medical Practitioners.

I was present on June 22, 1922, at what may, I hope, be described as the first annual dinner of the Association of Australian and New Zealand medical men in England. The meeting place was the Trocadero Restaurant and the attendance numbered forty, Mr. Joseph Cunning, the senior Australian medical man in London, presiding over a very enthusiastic gathering. In view of the increasing number of Australian and New Zealand medical practitioners now making visits or staying for extended periods in this country, it was felt by Dr. E. T. C. Milligan and others who conveyed the meeting, that an organized association, besides furnishing members with opportunities both of discussion of medical matters and of social enjoyment, might be of considerable utility in affording advice to newcomers to England from Australia and New Zealand. From Australasians who have settled down permanently in England, as well as from visiting men who have held temporary posts or who have had recent experience of professional examinations held in this country, it is hoped that a means will be forthcoming by which the association will help new arrivals with regard to such matters as preparation for the M.R.C.P., F.R.C.S., D.P.H. and other diplomas, special clinics wherein certain surgeons may be seen at work and the best means to secure clinical assistantships or house appointments, both in London and the provinces. For men coming to England for post-graduate study it is hoped to arrange introductions to members who are interested in the particular branch of medical science concerned in each case. It will also be possible to give advice with regard to hotel and lodging accommodation and to place newcomers in touch with non-medical Australian and New Zealand organizations already existing in London. The desirability of forming a connexion with the British Universities' Australian Association will also be considered. The social side is not to be forgotten and a golf tournament, for which Mr. Francis Muecke, C.B.E., has promised to present a prize, is contemplated. Dr. J. W. Dunbar Hooper, Vice-President of the Victorian Branch of the British Medical Association, emphasized the importance of informing the Australian and New Zealand Branches of the formation of the new Association and the facilities which it is hoped to afford to men coming to England.

Among those present at the dinner and meeting were Mr. E. C. Lindsay, Mr. T. P. Dunhill, Dr. Denis Browne, Dr. L. G. Brown, Mr. H. Bedford Russel, Dr. Isaac Jones, Dr. Camac Wilkinson and Dr. Broughton-Alcock. The annual membership subscription was fixed at 5s.. Dr. E. T. C. Milligan will be glad if Australian and New Zealand medical men contemplating a visit to England and desirous of joining the Association, will communicate with him at 86, Harley Street, W.1.

Women Students of Medicine.

I referred in a previous letter to the recent decision of the London Hospital authorities to cease to admit women students for tuition in the medical school and wards. Already this exclusion has been followed by the entry at the London Hospital of a considerable number of men students who had previously applied for admission elsewhere. The reluctance of certain male students to attend hospitals admitting women students appears to be a more important factor in this question than the difficulty (which I think has been exaggerated) experienced by teachers in giving instruction in medical subjects to mixed classes. It is a curious fact that in most provincial schools, as well as Scottish and Irish, the male student seems to have become reconciled to studying in the same classes as women and finds therein little cause for embarrassment. In London, with its numerous rival schools and hospitals, the dislikes and preferences of the student are possibly more influential than in the provinces, where the university town has, as a rule, one medical school only and one principal teaching hospital connected with it.

Correspondence.

A WARNING.

SIR: The following may serve to warn colleagues situated as I am:

I recently placed my practice in the hands of Mr. A.B., whom I have known and trusted for many years, for sale on certain terms. As yet I have received no acknowledgement of my letter. The backbone financially of my practice is a certain appointment. I was present at a meeting of its board of management to-day. To my surprise the secretary read a letter from Mr. A.B. to the board, which runs to the following effect: "Hearing that Dr. X.Y.Z. proposes to resign shortly, I wish to inform you that I can find you a very reliable doctor to fill the vacancy at once." I have not resigned, nor does the board know from me aught of my proposed plans. Yours, etc.,

"CAUTIOUS."

September 1, 1922.

DIATHERMY AND RADIO-THERAPY.

SIR: I have not and never had any prejudice against X-ray therapy. I frequently make use of my colleagues who practise in it and I believe them when they say they cure many cases. I am only inveighing against the continuance for years of a form of treatment that has proved inefficient. If Dr. Molesworth can keep up his record of cures, no one will be more delighted than myself. I would point out to him that in rodent ulcer diathermy should show 100% of cures in early cases, that it is less expensive than X-ray therapy, that there is no shock, no laying up in slight cases, no pain except in some cases where it is very mild, so, except for the need of an anæsthetic, every point is in favour of diathermy. Yours, etc.,

W. KENT HUGHES.

22, Collins Street, Melbourne,
September 16, 1922.

Post-Graduate Work.

NOVEMBER COURSE IN MELBOURNE.

THE MELBOURNE PERMANENT COMMITTEE FOR POST-GRADUATE WORK announces that the November course will be held during the fortnight, November 13 to 25, 1922. The lectures and demonstrations will be held at the Melbourne, Alfred, St. Vincent's, Eye and Ear, Children's, Infectious Diseases and the Foundlings' Hospitals. The syllabus is being drawn up on the same principles as were adopted last year. The details will be published at a later date.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on September 4, 1922.

The degree of Master of Surgery (Ch.M.) was conferred upon DR. H. SYMONDS, of Heidelberg, Victoria, *in absentia*.

A letter was received from MR. COLIN STEPHEN, transmitting a legacy of £2,000 from the late LIEUTENANT-COLONEL FRANCIS SELWYN CAMPBELL for a scholarship in memory of his father, Robert Campbell, and his mother, Ann Sophia Campbell. It was decided that a letter of grateful appreciation be sent to Mr. Stephen and that the question of the conditions of the award be referred to the Professorial Board for recommendation.

On the recommendation of the Faculty of Medicine, it was resolved to establish three tutorships in obstetrics.

Obituary.

ALEXANDER LEWERS.

IT is with great regret that we have to record the death of Dr. Alexander Lewers, of Melbourne. At its meeting on September 14, 1922, the Council of the Victorian Branch passed a motion of sympathy with Dr. Lewers when his serious illness was reported and embodied in the resolution a hope for his speedy recovery. Two days later Dr. Lewers died.

CYRIL LOWTHER CLARKE.

THE news of the death of Dr. Cyril Lowther Clarke as a result of a motor-car accident on September 16, 1922, will be received with deep regret by his many friends in South Australia and elsewhere.

Public Health.

STATE CHILDREN IN SOUTH AUSTRALIA.

THE STATE CHILDREN'S COUNCIL OF SOUTH AUSTRALIA has issued its annual report for the year ended June 30, 1922, in the usual form. This document is a concise record of the activity of the Council and by the adoption of formulæ the reader is able to glean at a glance the chief variations from year to year. The letterpress of the report is devoid of all unnecessary discussion. Perhaps it is too short for emphasis. For example, the problem of the utmost importance concerning the failure of this organization, as of all similar institutions, to continue the exercise of the control of mental defectives beyond the age of twenty-one years is dismissed in one short sentence. We have called attention to this grave matter on numerous occasions. The individuals whose mental processes have been arrested in the course of development, at times under suitable safeguards and adequate supervision may become reliable and useful citizens, but many of them exhibit a lack of moral control on arriving at puberty. This inability to exercise restraint is largely responsible for crimes of violence and offences of a sexual nature. Notwithstanding the doctrines promulgated by Freud, Jung and Ernest Jones, the normal individual is capable of restraining or repressing sex impulses without wrecking his nervous and mental make-up. His mental processes are influenced by so large a variety of desires, ambitions, intentions and intellectual pleasures that the sex complex cannot be regarded as all pervading. The moron, whose moral qualities are deficient, on the other hand, answers more closely to this doctrine, for the greater part of his actions is tempered by his lack of control over his passions. At the present time the authority has made no provision for the permanent control of these candidates for admission to the ranks of prostitutes, social pests and criminals.

Children Under Control.

On June 30, 1922, there were 1,764 children under the control of the Council. This number is 88 less than on the same date a year ago. Of the 1,764 children, 273 were in the reformatories or other similar institutions, thirty-two were in hospitals or homes, 1,420 were boarded out, twenty had absconded and the remaining nineteen appear to have been nominally under control. It will thus be seen that about 80.8% were boarded out in some suitable manner.

The number of children admitted to the control of the Council during the year was 268, while 346 were discharged or released on petition and twelve died. There is a slight discrepancy in the report concerning the number of deaths, since in one section it is set out that seven children died in licensed houses and twelve in unlicensed houses. The reasons for the committals are given as "unfit guardianship," "illegitimate," "uncontrollable," "destitute," "admitted temporarily," "offences against the law."

Institutional Control.

The institutions to which the children are committed are the Industrial School at Edwardstown and Somerton, the Reformatories for Boys at Magill and Brooklyn Park, the Girls' Reformatory at Redruth, the Girls' Probationary School at Fullarton and the Boys' Probationary School at Mount Barker and the Home for Weak-Minded Children, "Minda." It is obviously the policy of the Council to limit these institutions to the purpose of dealing with uncontrollable, vicious, immoral and weak-minded children. Much is done to brighten the lives of these unfortunate youngsters and to awaken in them a spirit of honour, independence and self-reliance. Those in charge have a difficult task, for it is impossible to insure success with all children. Unfortunately, the medical control and classification of the children is insufficient and an accurate differentiation between the mentally defective and the badly influenced boys and girls is scarcely attempted. A considerable number of those who are discharged to less unfavourable environment on probation, find their way back to the institutions for various reasons. The most common reason ascribed for the return is absconding and the second is that the child was unsuitable, whatever that may mean in fact. The total number returned to institutions was 843.

Boarded Out Children.

Of 1,509 children who were "placed out," 703 were on subsidy, by which is meant that the Council contributed to their maintenance, either in their homes or with foster parents or elsewhere. In addition, 354 children were in service and a further 276 released on probation. No less than 84 State children were adopted while under the Council's care. Under the category "Custody and Control of the Council" are included those children who have been charged with various offences of a character that does not necessitate retention in an institution. There were twenty-nine newly admitted children in this class and a total of ninety-four on the last day of June, 1922.

Applications for licences as foster-mothers were received

from 339 women. Of these, 320 were granted, including 251 renewals.

Two hundred and ninety-seven children were found in unlicensed homes. The children were discovered in the course of inspection. Of the total number, twelve were transferred to licensed foster-mothers and forty-one passed out of supervision. The majority of the homes were suitable. A few were excellent, while seventeen were described as "unsatisfactory." Of the children, 259 were in good health, thirty-one were delicate and the remaining seven had not been visited at the time of the issue of the report.

It is obvious from the report, which contains further information of an interesting nature, that the members of the Council are performing their work with enthusiasm and efficiency and that the destitute, malicious and deficient children of South Australia are as well looked after as is possible under the existing condition of the law.

THE PLAGUE OUTBREAK.

DURING the past thirteen weeks the records of the administrative action of the Health Authorities in regard to the control of plague infection has been published in regular issues of the *Plague Bulletin* by the Commonwealth Department of Health.

Human Infections.

On four occasions since May 18, 1922, notifications were received by the Commissioner of Health in Queensland concerning illnesses suspected to be plague. In all four instances the suspicion was not confirmed. The first patient was a man, aged thirty-six years, at Innisfail, while the other three patients were in Brisbane.

A woman, aged sixty, residing at Redfern, Sydney, was admitted to the Coast Hospital on June 9, 1922, suffering from plague. She died on the following day. Another patient who had previously been admitted, died on June 6, 1922. There have been no human infections notified in Australia since.

Plague in Rodents.

The Metropolitan Joint Health Board in Brisbane reported on June 8, 1922, that up to that date 118,217 carcases of rodents had been dealt with and of this number 186 animals had been found to be infected. This is equivalent to 0.15%. Notwithstanding the statement that the last infected rodent in the Board's area was dealt with on April 28, 1922, it appears that an infected rat had been discovered in a produce store at Ithaca, Brisbane, on July 28. With this exception no infected rodent was found in Queensland during the period covered by the reports under consideration.

In the seven weeks ended July 15, 1922, 5,356 rats and mice were examined in Sydney. Of these, nineteen were infected. This is equivalent to an infection incidence of 0.35%. During the six weeks ended August 28, 1922, 2,614 rodents were examined in Sydney, but no infected animals were discovered.

THE HEALTH OF AUSTRALIA.

INFECTIVE DISEASES NOTIFIED IN AUSTRALIA DURING THE YEAR ENDED DECEMBER 31, 1921.

Infective Diseases.	N. S. Wales.		Victoria.		Queensland.		Sth. Australia.		West Australia		Tasmania.		Commonwealth	
	Cases.	Deaths	Cases.	Deaths	Cases.	Deaths	Cases.	Deaths	Cases.	Deaths	Cases.	Deaths	Cases.[1]	Deaths
Enteric Fever	938	125	445	67	516	59	240	34	405	42	305	25	2,849	352
Scarlet Fever	1,069	9	2,509	21	380	3	1,238	4	248	1	598	4	6,042	42
Diphtheria	6,941	291	7,791	274	2,434	109	2,752	122	1,088	44	2,186	58	23,192	898
Pulm'n'ry Tuberculosis	1,235[2]	1,007	1,171	1,028	619	338	499	331	449	260	241	131	—	3,105[3]
C'bro-Spin'l Meningitis	33	28	20	17	19	11	6	6	0	0	2	1	80	63
Poliomyelitis	88	17	21	2	28	5	—	—	1	0	2	0	—	24
Malaria	—	4	7	0	4	20	1	0	38	3	2	1	—	43[4]
Puerperal Fever	—	1	52	4	30	2	21	1	13	1	22	1	—	10
Septicæmia, Sapræmia, Pyæmia	—	73	0	33	—	31	—	17	14	8	—	16	—	178
Bilharziosis	—	—	0	0	1	0	0	0	0	0	1	0	—	—
Morbilli	—	31	—	5	—	11	4,498	16	—	19	—	—	—	83[5]
Pertussis	—	192	—	80	—	64	391	19	—	53	—	18	—	428[6]
Ophthalm. Neonatorum	—	1	0	0	—	—	—	1	5	0	6	0	—	2
Anchylostomiasis	—	—	0	0	89	6	—	—	1	—	—	—	—	6
Beri-Beri	—	1	—	1	—	5	—	—	21	9	—	—	—	19[7]
Low or C'ntinu'd Fever	—	—	0	0	0	0	—	—	2	0	—	—	—	—
Pneumonia	—	—	—	—	18	—	—	—	36	0	—	—	—	—
Influenza	—	—	—	—	274	0	414	0	19	0	—	—	—	—
Dengue Fever	—	—	—	—	—	—	—	—	27	—	—	—	—	—
Encephalitis Letharg'a	—	—	2	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	100	0	121	0	56	0	—	—	—	—
Dysentery	—	—	6	—	11	0	—	—	21	0	—	—	—	—
Membranous Croup	0	0	0	0	2	0	1	0	4	0	—	—	—	—
Cholera	—	—	0	0	0	0	0	0	1	0	0	0	—	—
Hæmaturia	—	—	0	0	1	0	—	—	3	0	0	0	—	—
Small-Pox	0	0	3	2	0	0	0	0	0	0	0	0	3	2
Plague	2	1	0	0	104	57	0	0	0	0	0	0	106	58

[1] The total number of cases is not given of those diseases which are not notifiable in all the States.
[2] Notifiable only in portion of the State.
[3] Includes ten deaths in the Northern Territory.
[4] Includes fifteen deaths in the Northern Territory.
[5] Includes one death in the Northern Territory.
[6] Includes one death in Federal and one in Northern Territory.
[7] Includes three deaths in Northern Territory.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of the *Medical Act, 1912 and 1915*, as duly qualified medical practitioners:

DUNCAN, WILLIAM JOHN LAURENCE, M.B., Bac. Surg., 1920 (Univ. Melbourne), Brewarrina, New South Wales.

MARKWELL, NORMAN WALTER, M.B., 1910, Ch.M., 1912 (Univ. Sydney), England.

For Additional Registration.

JAMES, JOHN ALEXANDER, Ch.M., 1915 (Univ. Sydney), Wahroonga.

Change of Name on Register.

BOAG, FRANK LEIGH, to LEIGH, FRANK BOAG, Port Moresby, Papua.

Books Received.

DISPENSING MADE EASY, by Wm. G. Sutherland, M.B. (Aberd.); Fifth Edition, Revised by A. L. Taylor, Ph.C., M.P.S.; 1922. Bristol: John Wright & Sons, Limited; Foolscap 8vo., pp. viii. + 98, with 70 pages for memoranda and private formulæ. Price: 6s. net.

MY MOORLAND PATIENTS, by a Yorkshire Doctor (the late Dr. R. W. S. Bishop); 1922. London: John Murray: Sydney: Angus & Robertson, Limited; Demy 8vo., pp. x. + 242, with four illustrations. Price: 12s. net.

SAMMLUNG ZWANGLOSER ABHANDLUNGEN AUS DEM GEBIETE DER VERDAUUNGS- UND STOFFWECHSELKRANKHEITEN; MIT RÜCKSICHT AUF ALLGEMEINÄRZTLICHE INTERESSEN, herausgegeben von Professor Dr. H. Strauss in Berlin;[1] 1922. Halle an der Saale: Carl Marhold Verlagsbuchhandlung.

VII. Band, Heft 4: EINIGE NEUERE BETRACHTUNGSWEISEN IN DER ERNÄHRUNGSTHERAPIE, von Professor Dr. Alfred Gigon, Basel; Demy 8vo., pp. 48.

VII. Band, Heft 5: DIE METHODEN DER KÜNSTLICHEN ERNÄHRUNG, INSBESONDERE DIE INDIKATIONEN UND TECHNIK DER DUODENAL- UND REKTALERNÄHRUNG, von Dr. Max Einhorn, New York; mit 6 Abbildungen; Demy 8vo., pp. 43.

VII. Band, Heft 6 bis 8, DAS HÄMORRHOIDALLEIDEN; WESEN, URSACHEN, KLINISCHES BILD UND THERAPIE, von Professor Dr. I. Boas in Berlin mit einer Abbildung im Text und sechs Abbildungen auf einer Tafel; Demy 8vo., pp. 66.

Medical Appointments.

DR. W. A. COLLOPY (B.M.A.) has been appointed Public Vaccinator at Trafalgar, Moe and Yarragon, Victoria.

* * * *

DR. E. R. DERMER has been appointed Medical Officer to the Venereal Diseases Clinic, Public Hospital, Fremantle, Western Australia.

* * * *

DR. JOHN DALE, O.B.E. (B.M.A.), has been appointed Deputy Commissioner of Public Health, Western Australia, during the absence from the State of the Commissioner of Public Health.

* * * *

DR. A. L. KERR (B.M.A.) has been appointed a Commonwealth Medical Inspector of Shipping and Medical Inspector of Seamen for the port of Sydney.

* * * *

DR. J. R. MCCLEAN has been appointed Government Medical Officer at Dorrigo, New South Wales.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii..

HOSPITAL FOR SICK CHILDREN, BRISBANE: Resident Medical Officer.

[1] Collection of independent works on the subject of Digestive and Metabolic Diseases, with special reference to their general medical significance, edited by Professor Dr. H. Strauss, Berlin

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Societies' Dispensary Friendly Societies Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phœnix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Manchester Unity Independent Order of Oddfellows Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Hampden District Hospital, Kuridala, North Queensland Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

SEPT. 26.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
SEPT. 27.—Victorian Branch, B.M.A.: Council Meeting.
SEPT. 28.—South Australian Branch, B.M.A.: Branch.
SEPT. 28.—Brisbane Hospital for Sick Children: Clinical Meeting.
SEPT. 29.—New South Wales Branch, B.M.A.: Election of Two Members of Federal Committee.
SEPT. 30.—Victorian Branch, B.M.A.: Election of Two Members to Federal Committee.
OCT. 1.—Victorian Branch, B.M.A.: Election of Representatives of Divisions.
OCT. 3.—New South Wales Branch, B.M.A.: Council (Quarterly).
OCT. 4.—Victorian Branch, B.M.A.: Branch.
OCT. 6.—Queensland Branch, B.M.A.: Branch.
OCT. 6.—Annual Meeting of the Delegates of the Local Associations with the Council of the New South Wales Branch, B.M.A.: First Day.
OCT. 7.—Annual Meeting of the Delegates of the Local Associations with the Council of the New South Wales Branch, B.M.A.: Second Day.

Editorial Notices.

MANUSCRIPTS forwarded the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

SUBSCRIPTION RATES.—Medical students and others not receiving the THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and book-sellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.